

# Public Utilities

Volume 65 No. 6



March 17, 1960

## HIGH MOUNTAIN SHEEP DAM AND THE SNAKE RIVER SALMON PROBLEM

*By A. B. Curtis*

« »

## Antitrust Laws and Regulated Companies Under the FPC

*By the Honorable Jerome K. Kuykendall*

« »

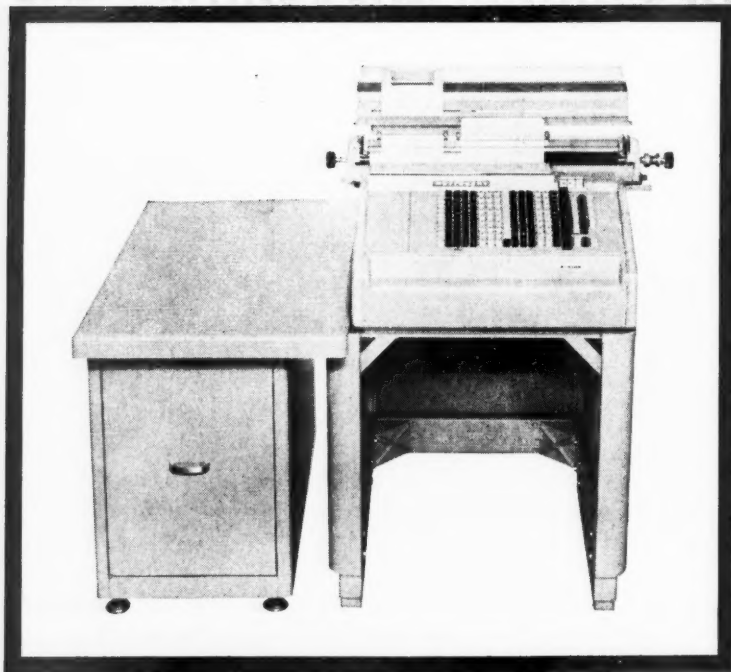
## Sales Promotion Yardsticks for Electric and Gas Utilities

*By William T. Kelley*

« »

## Difficulties of British Sales of Atomic Power Plants

PRINTING DUAL PRINTING DUAL PR  
 NTING DUAL PRINTING DUAL PR  
 DUALPRINTING DUAL PRINTING DU  
 DUALPRINTING DUAL PRINTING DUA  
 PRINTING DUAL PRINTING DUAL PR  
 NTING DUAL PRINTING DUALPRINT  
 DUALPRINTING DUAL PRINTING DU  
 DUALPRINTING DUAL PRINTING DUA



## NOW: GET AUTOMATION WITH DUAL PRINTING

### BURROUGHS SERIES F-5000 UTILITY BILLING MACHINE

Here, for new efficiency, is the first fully automatic utility billing machine with dual printing. Results: you get automatic, simultaneous printing of identical figures on two original records, such as bill and ledger or stub-bills. And you get these bonus benefits:

It's fully automatic—provides balances, plus and minus subtotals and totals, dates. Also equipped with automatic carriage position control of addition, subtraction, non-addition, subtotaling and totaling.

It's flexible—you switch from job to job at the flick of a knob. Payroll, Accounts Payable, and other special accounting records can be assigned to this machine also.

It's fast—no extra operator decisions to make, no extra keys to punch. Single motor bar operation for 90% of all entries. Complete keyboard control of error correction. Fixed limit form alignment.

See the Series F-5000 in action. Phone our nearby branch. Or write Burroughs Corporation, Burroughs Division, Detroit 32, Michigan.

Burroughs—TM



**Burroughs Corporation**

"NEW DIMENSIONS / in electronics and data processing systems"

**Editor-in-Chief • ELLSWORTH NICHOLS**

**Editor • FRANCIS X. WELCH**

**Associate Editors • NEIL H. DUFFY**

**NORMAN J. BARATT**

**GEORGE E. TURNER**

**JOHN W. HEWITT**

**CHARLES M. BRUCH**

**Assistant Editors • M. C. MCCARTHY  
M. L. WILLIAMS**

**Financial Editor • OWEN ELY**

**Advertising Manager • E. L. COOKE**

**Circulation Manager • E. S. STEVENS**

#### REPRINTS OF ARTICLES

(200 or more copies)

available on orders received within 30 days after publication date.

#### Address

WASHINGTON OFFICE  
for quotations.

PUBLIC UTILITIES FORTNIGHTLY . . . stands for federal and state regulation of both privately owned and operated utilities and publicly owned and operated utilities, on a fair and nondiscriminatory basis; for nondiscriminatory administration of laws; for equitable and nondiscriminatory taxation; and, in general—for the perpetuation of the free enterprise system. It is an open forum for the free expression of opinion concerning public utility regulation and allied topics. It is supported by subscription and advertising revenue; it is not the mouthpiece of any group or faction; it is not under the editorial supervision of, nor does it bear the endorsement of, any organization or association. The editors do not assume responsibility for the opinions expressed by its contributors.

Subscriptions: Address correspondence to PUBLIC UTILITIES FORTNIGHTLY, circulation department, 332 Pennsylvania Building, Washington 4, D. C. Allow one month for change of address.

Single copies \$1.00. Annual subscription price (26 issues a year): United States and possessions, \$15.00; Pan American countries, \$15.00; Canada, \$16.00; all other countries, \$17.50.

Entered as second-class matter April 29, 1915, under the Act of March 3, 1879, at the Post Office at Baltimore, Md., December 31, 1936. Copyrighted, 1960, by Public Utilities Reports, Inc. Printed in U. S. A.

# Public Utilities

## FORTNIGHTLY

VOLUME 65

MARCH 17, 1960

NUMBER 6



### ARTICLES

#### High Mountain Sheep Dam and the Snake River Salmon Problem . . . . . *A. B. Curtis* 361

Fish conservation is a determining factor in the question of future hydroelectric development on the Snake river.

#### Antitrust Laws and Regulated Companies under the FPC . . . . . *Hon. Jerome K. Kuykendall* 373

The application of antitrust laws to the activities of public utility companies.

#### Sales Promotion Yardsticks for Electric and Gas Utilities . . . . . *William T. Kelley* 382

The author develops some yardsticks for sales promotion in the gas and electric utility field.

### FEATURE SECTIONS

#### Washington and the Utilities . . . . . 396

#### Telephone and Telegraph . . . . . 399

#### Financial News and Comment . . . . . *Owen Ely* 402

#### What Others Think . . . . . 411

Difficulties of British Sales of Atomic Power Plants 411

#### The March of Events . . . . . 415

#### Progress of Regulation . . . . . 418

#### Industrial Progress . . . . . 29

#### • Pages with the Editors . 6 • Utilities Almanack . . . 25

#### • Coming in the Next Issue 10 • Frontispiece . . . . . 26

#### • Remarkable Remarks . . 12 • Index to Advertisers . . 40

### PUBLIC UTILITIES REPORTS, INC., PUBLISHERS

#### Executive, Editorial &

Advertising Offices . . . . . 332 PENNSYLVANIA BLDG., WASHINGTON 4, D. C.

Publication Office . . . . . CANDLER BUILDING, BALTIMORE 2, Md.

#### Advertising Representatives:

New York 6: Robert S. Farley, 95 Liberty Street, COrtland 7-6638

Cleveland 15: Macintyre-Simpson & Woods, 1900 Euclid Avenue, CHerry 1-1501

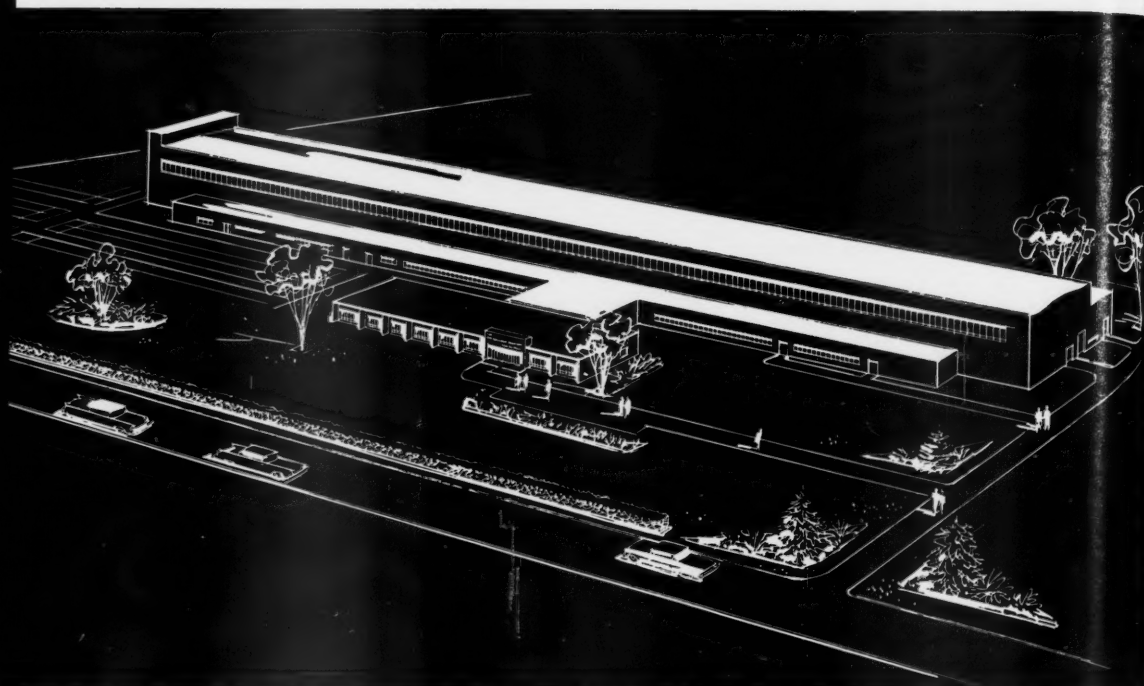
Chicago 1: Macintyre-Simpson & Woods, 75 E. Wacker Drive, CEntral 6-1715

Pacific Coast: M. D. Pugh & Associates,

P. O. Box 635, AIdadena, Calif., SYcamore 7-2894

Hunter Vinton, 1050 Lincoln Avenue, Palo Alto, Calif.—DAvenport 5-4815

# To Serve Electric



*Artist's conception of Kellogg's new Power Piping Division headquarters and plant at Williamsport, Pennsylvania. The entire site covers about 50 acres.*



As operating temperatures and pressures increase in central power generating stations, the need for stronger and superior materials, and for better methods of manufacturing power piping systems, becomes more acute.

To help solve these problems, The M. W. Kellogg Company's Power Piping Division is building new metallurgical and welding laboratories as part of its complete manufacturing facilities at Williamsport.

The laboratory facilities and personnel, in addition to performing applied research and development for manufacturing power piping, will be available for consultation with clients on their problems and will act as a customer service laboratory.



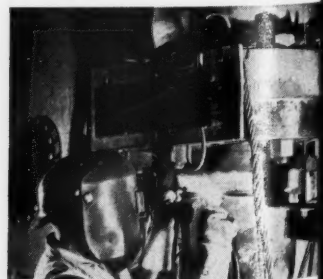
*In the laboratory, a Kellogg metallurgist places sample of austenitic steel in heat-treating furnace. After heat treatment, the steel sample will be cut into sections and tested.*



*In the welding shop, two heavy-walled sections of stainless steel power piping are joined by K-Weld—an inert gas-shielded technique of arc welding, patented by Kellogg, which assures long life.*



*In the pipe bending shop, a length of steel piping is bent to close tolerances. In pipe retains inert gas introduced during heat treating to prevent oxidation.*



*In the customer's plant, a Kellogg operator uses K-Weld to install heavy sections of power piping which carry superheated steam from boilers to generators.*



# Utilities Still Better

## *Power Piping Division of M. W. Kellogg is Building New Headquarters and Manufacturing Plant in Pennsylvania*

to still further improve the service it has given to electric utilities for over 40 years, the Power Piping Division of The M. W. Kellogg Company is now building new headquarters and a plant at Williamsport, Pennsylvania.

To be completed by Labor Day, the plant will specialize in the manufacture of high pressure, high temperature alloy and carbon steel piping for electric generating stations. Centrally located in Pennsylvania, Kellogg's Williamsport plant will be within easy distance from many Eastern industrial centers. From here, it is well situated to serve clients by road, rail, or air.

Representing an investment of approximately \$4 million, these new facilities will have no equal in the power piping industry. Incorporating the most modern and time-saving equipment, the facilities have been designed throughout for maximum efficiency and economy.

With completion of its new plant, Kellogg will be better equipped than ever to start with any power piping problem from scratch, and to carry it through to the actual installation in customers' central stations from coast to coast.

At its new plant, Kellogg will have the engineering skills to manufacture complex piping systems; the men and equipment to cut, machine, bend, weld and heat treat piping of varying sizes and wall thicknesses.

Here, Kellogg will have the equipment to make electronic, radiographic, ultrasonic and other advanced tests to inspect the quality of the finished product. Here, it will have the metallurgical and welding laboratories to evaluate new and superior piping materials; to maintain a continuing program of development in welding and other manufacturing techniques, and add still further to its line of industry "firsts" listed at the right.

Kellogg's Power Piping Division welcomes inquiries on its new facilities from engineers of power generating companies, consulting engineers, and manufacturers of turbines, boilers, and allied equipment.

### OTHER KELLOGG FIRSTS IN POWER PIPING

In 1931, Kellogg manufactured the first all-welded piping for the first high-temperature, high-pressure central station in the United States. Kellogg manufactured the first austenitic steel piping for a central station installation and has been continually experimenting since to establish the best materials, manufacturing techniques and heating cycles for welding and post-welding treatment, and to set specifications for electrodes.

### FIRST IN MANUFACTURING OF:

Piping from C ½% Mo  
Station piping for 900 F.  
Station piping for 950 F.  
Station piping for 2200 psi  
C ½% Mo piping with  
#3-#5 actual grain size  
1¼% Cr-½% Mo steam piping  
Steam piping for 1000 F.  
½% Cr-½% Mo station piping  
2% Cr-½% Mo station piping  
Station piping for 1000 F.  
2¼% Cr-1% Mo station piping  
1¼% Cr-½% Mo station piping  
1% Cr-1% Mo V turbine piping  
2¼% Cr-1% Mo V station piping  
Station piping for 1050 F.  
3% Cr-1% Mo station piping  
Type 347 stainless turbine piping  
Mercury vapor piping for 1000 F.  
Station piping for 1003 F. for France  
Type 347 stainless station piping  
Station piping for 1100 F.  
Type 316 stainless station piping  
Type 316 stainless station piping for  
3500 psi-1050 F., 325 MW  
Type 316 stainless station piping for  
5600 psi-1200 F., 325 MW



POWER PIPING DIVISION • THE M. W. KELLOGG COMPANY

711 THIRD AVENUE, NEW YORK 17, N. Y. • A SUBSIDIARY OF PULLMAN INCORPORATED

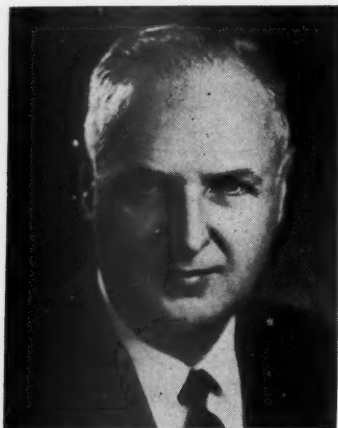
Offices of Kellogg subsidiary companies are in Toronto, London, Paris, Rio de Janeiro, Caracas, Buenos Aires.

# Pages with the Editors

ONE of the most fascinating but still unexplained miracles of nature is the ability of certain species of fish to return to their native spawning grounds. The most often cited example is the Columbia salmon, which has a cycle of four years between the time it emerges as a fingerling in the upper reaches of the Columbia river to the time when it returns to the same area, fully grown and ready to spawn a new generation.

LIKE a number of other species of fish, the salmon is able to exist in both fresh river water and the salt water of the ocean. Between the time it leaves the Columbia river as a fingerling and returns to it as an adult, the salmon may swim halfway around the world through the waters of Japan and the Philippines.

THE unerring instinct of the salmon to return not only to the Columbia river but to the exact spot on the exact tributary or fork where it was spawned has long created a baffling problem for builders of dams on that river. If the Columbia salmon industry is to survive, and a great natural resource conserved for posterity, some practical balance must be worked out for building structures which will not result in the wholesale destruction of the salmon cycle.



JEROME K. KUYKENDALL




A. B. CURTIS

Provisions must be made not only for protecting the fingerlings on their trip downstream to the ocean but to assist them in the upstream migration past the formidable obstacles of hydro irrigation and flood-control dams.

IF the returning salmon could be diverted from one ancestral spawning ground to another equally suitable but more accessible, much of the difficulty would be solved. But the salmon, so far at least, do not readily accept substitutes. They want to spawn in their home grounds or die in the attempt to reach them.

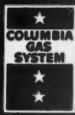
MAN-MADE appliances such as fish ladders and diversion canals for fish runs have had some measure of success at some locations. But a real challenge seems to lie in future hydroelectric development along the last of the great potential sites in the continental United States—the Snake river and its tributaries.

ONE proposed site, at which the fish problem admittedly has *not* been solved, is at Nez Perce. Another alternative site, at which a solution has been claimed, is at the High Mountain Sheep location. The fact that the former has been urged as a government development while the latter has been applied for by private utility in-



# Columbia Gas serves a very special part of America

One-fourth of all United States underground storage capacity is maintained by the Columbia Gas System.



throughout its service territory—in Ohio, Pennsylvania, West Virginia, Kentucky, Virginia, Maryland and southern New York—natural gas continues to be the preferred fuel for home and industry.

THE COLUMBIA *Gas* SYSTEM, INC.

COLUMBIA GAS SYSTEM SERVICE CORPORATION  
COLUMBIA HYDROCARBON CORPORATION  
120 EAST 41st STREET, NEW YORK 17, N. Y.

CHARLESTON GROUP: UNITED FUEL GAS COMPANY, 1700 MacCORKLE AVENUE, S.E., CHARLESTON, WEST VIRGINIA. COLUMBUS GROUP: THE OHIO FUEL GAS COMPANY, 99 NORTH FRONT ST., COLUMBUS 15, OHIO. PITTSBURGH GROUP: THE MANUFACTURERS LIGHT AND HEAT COMPANY, 800 UNION TRUST BLDG., PITTSBURGH 19, PA.

## PAGES WITH THE EDITORS (Continued)

terests has further complicated the situation.

RATHER than risk private company development getting a long head start at Mountain Sheep, some of the government ownership proponents would like to declare a moratorium on the whole thing. They would do nothing about further development until a reliable and satisfactory answer to the fish problem is worked out. Proponents of the High Mountain Sheep dam, who think they have the answer already, contend that this is a dog-in-the-manger attitude. So the issue is joined.

OUR leading article deals with this puzzling aspect of hydroelectric development on the Snake river. It comes to us from a proponent of immediate development by the privately owned utility interests which have applied to the Federal Power Commission for a license to build the High Mountain Sheep dam. The author is A. B. CURTIS, now serving his fourth term as mayor of Orofino, Idaho, which is in the area of a number of hydro sites on the Snake river and its tributaries.

FOR many years MAYOR CURTIS has been chief warden in charge of forest land management of two great forest preserves which cover more than a million acres owned by members of the Clearwater Timber Protective Association and the Potlatch Timber Protective Association. He is a director of the Idaho League of Municipalities and chairman of its legislative committee. He is also a director of the Idaho Chamber of Commerce and the Idaho Inland Waterways Association. He is a member of the University of Idaho Resources Research Council and has long been recognized as an outstanding spokesman of private development of hydro resources.

\* \* \* \*

JEROME K. KUYKENDALL, whose discussion of antitrust laws as they apply to regulated companies subject to the jurisdiction of the Federal Power Commission begins on page 373, needs no introduction to the readers of this magazine. He



WILLIAM T. KELLEY

has been chairman of the FPC since May 15, 1953. A native of Pomeroy, Washington, and a graduate of the University of Washington (LLB, '32), he practiced law in Seattle until 1941 when he was appointed assistant attorney general of the state of Washington. During the interim of World War II he served as a Navy Lieutenant and in 1946 he entered private practice at Olympia. In 1951 he was appointed a member of the Washington Public Service Commission and was designated chairman. He served at that post until his appointment to the FPC in 1953.

\* \* \* \*

WILLIAM T. KELLEY, whose article on yardsticks for sales promotion in gas and electric utility operations begins on page 382, is a native of New Jersey and was educated at the University of Toronto (AB, '39) and Wharton School of Finance of the University of Pennsylvania (MBA, '41). During World War II he was a U. S. Army expert on logistic planning for the North African and European invasions. Since 1946 he has taught at the Wharton School of Finance and earned his PhD in 1951. He became associate professor in 1955.

THE next number of this magazine will be out March 31st.

*The Editors*



# Handy Dodge Tradesman saves you time, cuts your costs

Handiest thing on wheels, this new Dodge Tradesman! Its roomy compartment-type body helps keep your tools neatly arranged. Cuts costs by helping you accomplish more work in shorter time. Spacious floor area holds the bigger items you haul. Ladder racks and sliding roof are available.

As for the rest of the truck, it's everything the Dodge name promises. Dependable. Husky. Easy to drive. Thrifty, too . . . with your choice of a 120-hp. Six or 200-hp. V-8. Both engines thrive on a lean diet of low-cost regular gas!

The Tradesman rolls off the Dodge production line as a complete unit, equipped to your specifications and ready for work. It's available for quick delivery at low cost through your nearby Dodge dealer.



**DODGE TRADESMAN** has lock-up compartments for supplies, fittings, tools. Open, doors of horizontal compartments form handy "workbenches".



**DODGE PANELS** provide 155 cu. ft. of enclosed load space on a compact 108-inch wheelbase. Tops in driving ease and eye-catching style!



**DODGE 4 x 4's** take you anywhere off the road or on! Big choice of body types. G.V.W.'s from 5,100 to 20,000 lbs. Horsepower from 113 to 202.



DEPEND ON  
**DODGE**  
TO SAVE YOU  
MONEY IN  
**TRUCKS**



# Coming IN THE NEXT ISSUE

(March 31, 1960, issue)



## THE BRASS TACKS OF THE ICC ADMINISTRATIVE PROBLEM

In this article the Honorable Anthony F. Arpaia, member of the Interstate Commerce Commission, appeals for clear-cut thinking on the subject of the effectiveness of administrative agencies. It is an earnest plea against drastic or hasty reform proposals based on misconduct of a few. Criticism of commission regulation is not new and on the whole it has generally had a wholesome and helpful effect. But usually, in the past, these criticisms have resulted in making the commissions better and stronger, increasing their powers and the scope of their jurisdiction, until today both federal and state commissions have far more authority over far more aspects of public utility operations than, say, in the early thirties. The more recent outbreak seems to be an attack on commissions—as commissions—on the basic concept of commission regulation as an effective way of controlling business operations which should be controlled by government.

## GAS CONFUSION, UNLIMITED

Arthur K. Lee, chairman of the board of United Cities Gas Company of Chicago, Illinois, presents his own plan for producer and pipeline rate control which would simplify pipeline charges. He has come to the conclusion that the effort of producers to sell almost as much gas in the summer as in the winter has led to confusing complexities in two-part rate practice. This author thinks that Congress should still give thought to legislation for clarifying and assisting the task of natural gas rate regulation. The suggestion of the FPC that something similar to the Harris Bill be enacted, the activity of the coal interests in trying to get enactments of fair energy regulation legislation, and the address last October by Secretary Seaton at the American Gas Association meeting, urging that the gas industry get together behind some proposal, lend weight to the argument that all sides at least agree that something should be done about it.

## ALTERNATIVE TAX DEPRECIATION AND THE REGULATED UTILITIES

Martin T. Farris, associate professor of economics at Arizona State University, and Carroll M. Perkins, economic analyst of the Salt River project, Phoenix, have come to the conclusion that for economic comparisons utility management might be wise in using the so-called "flow through" method in determining the proper income tax portion of fixed charges resulting from the use of accelerated tax depreciation. In this article they take the position that benefits can accrue to both the stockholder and the ratepayer as well or to some combination of both, depending upon how a regulatory body treats liberalized tax depreciation. The ratepayer benefits most, of course, if the "flow through" method is required—stockholders get the most benefit if normalization plus tax reserve is allowed. Regardless of viewpoint, however, the tables in this article do lay to rest some erroneous ideas about what happens to the dollars of taxes paid and not paid when accelerated depreciation is used.



**Also . . . Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.**

# atomic progress

THROUGH



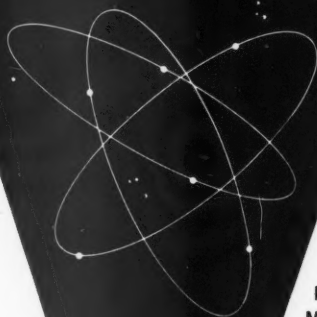
# pioneer

SERVICE

&

ENGINEERING CO.

231 S. La Salle Street,  
Chicago, Illinois



In 1952 Pioneer joined with other groups, all reporting to the Atomic Energy Commission, for constant study of atomic energy application.

Today Pioneer is qualified as a consultant to industry in the application of atomic reactor systems to the generation of electric power.

Presently, Pioneer is acting as architect-engineer and supervisor of construction of the 66,000 kw commercial atomic power plant shown here.

Allis-Chalmers Mfg. Co. is the prime contractor. Scheduled for 1962 completion, the plant, for the Northern States Power Co., will be known as the "Pathfinder".

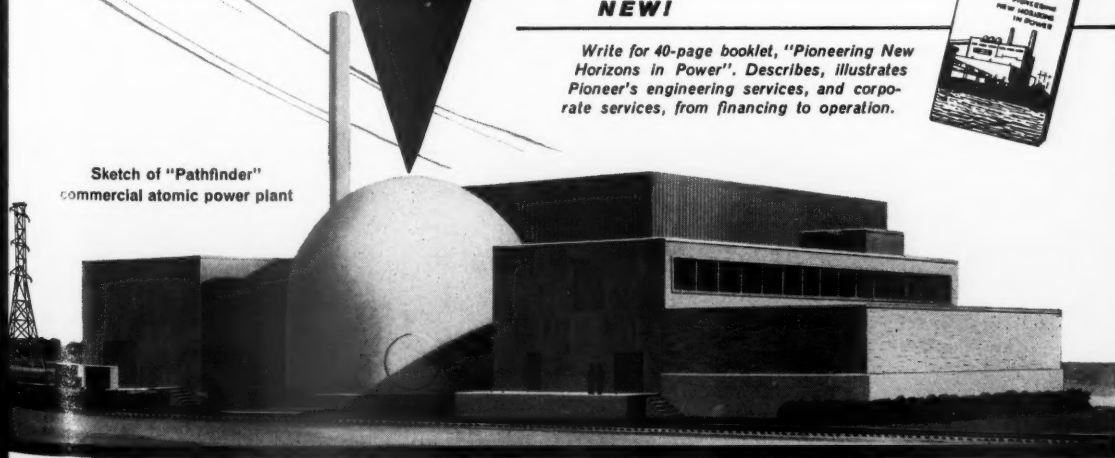
**Organized** as Central Utilities Atomic Power Associates, these utilities will share in the research and development costs: Northern States Power Co., Central Electric and Gas Co., Interstate Power Co., Iowa Power and Light Co., Iowa Southern Utilities Co., Madison Gas and Electric Co., Mississippi Valley Public Service Co., Northwestern Public Service Co., Ottetail Power Co., St. Joseph Light and Power Co., Wisconsin Public Service Corp. PIONEER SERVICE & ENGINEERING CO., 231 South La Salle Street, Chicago, Illinois

## NEW!

Write for 40-page booklet, "Pioneering New Horizons in Power". Describes, illustrates Pioneer's engineering services, and corporate services, from financing to operation.



Sketch of "Pathfinder"  
commercial atomic power plant



# Remarkable Remarks

*"There never was in the world two opinions alike."*

—MONTAIGNE

DON G. MITCHELL  
*President, General Telephone &  
Electronics Corporation.*

"Only 5 per cent of the time a [telephone] line is busy is anything being said. Through the use of electronics we can increase that efficiency to about 80 per cent—but the cost is tremendous and it will take time."

EZRA TAFT BENSON  
*Secretary of Agriculture.*

"I consider it politically, economically, and morally wrong for successful organizations like REA borrowers with sizable reserves and increasing revenues to keep dipping into the federal Treasury at the taxpayers' expense, to the tune of millions of dollars per year for interest payments alone."

A. WILLIS ROBERTSON  
*U. S. Senator from Virginia.*

"In spite of the aberration caused by the steel strike, our principal long-term economic problem both within this country and with respect to our international balance of payments is the control of inflation. It seems quite likely that, in the long run, the net effect of the steel strike will be additional pressures on the wage-price spiral."

EDITORIAL STATEMENT  
*The Wall Street Journal.*

"Farm programs designed to restore normal market forces would certainly justify reasonable expenditures for a time. Instead we are spending these staggering billions, year after year, on programs to make the problems worse. No possible excuse can be found in politics or sanity for Congress' continued refusal to unravel this costly crazy quilt."

BERTRAND RUSSELL  
*Philosopher and lecturer.*

"If all the greatest minds of our time—in arts and philosophy, pure science and practical sciences—would collaborate to produce the most hideous method of transportation, that calculated to create the maximum in mental suffering, they would build this road."—On being driven a few years ago from Washington to Richmond over Route 1.

EDITORIAL STATEMENT  
*First National City Bank Monthly  
Letter, New York, New York.*

"Business profits are volatile, tumbling in recessions and snapping back in recoveries. . . . Profits are a residual, what is left over. They may be plus or minus. If a company that has lost money makes as little as a single dollar its improvement runs beyond the bounds of percentage measurement. Over the years, business to succeed must make money. In an expanding private enterprise economy, it is necessary and proper that profits should reach new peaks—in common with other dollar magnitudes such as payrolls, sales volumes, invested capital, etc. The only fair way to size up profits is to compare them on an average basis and in relation to broader, stabler magnitudes. This becomes all the more important in a situation where money has been tending to depreciate in value and dollar magnitudes generally become swollen."


# P.U.R. EXECUTIVE

## *Information Service*



A fast-reading, weekly letter from Washington, devoted to developments in the Nation's Capital and state news of national significance affecting Public Utilities.

Dependable forecasts of what lies ahead in the utility field.



**Annual Subscription \$50**

**Public Utilities Reports, Inc.**

**332 Pennsylvania Bldg.**

**Washington 4, D. C.**

# Decision Making

Making the right executive decision calls for diversified scientific "know-how." Helping furnish this "know-how" is the management and engineering consultant's job.

Every company today faces complex problems in such fields as accounting, engineering, industrial and public relations, insurance, financing, marketing, rates and many other areas.

Commonwealth specialists are available to work with your executives in these areas, at a fraction of the cost you would pay for full-time people on your own staff.

## **Commonwealth**

**SERVICES INC. ASSOCIATES INC.**

*Management and Business Consultants  
Consulting and Design Engineers*

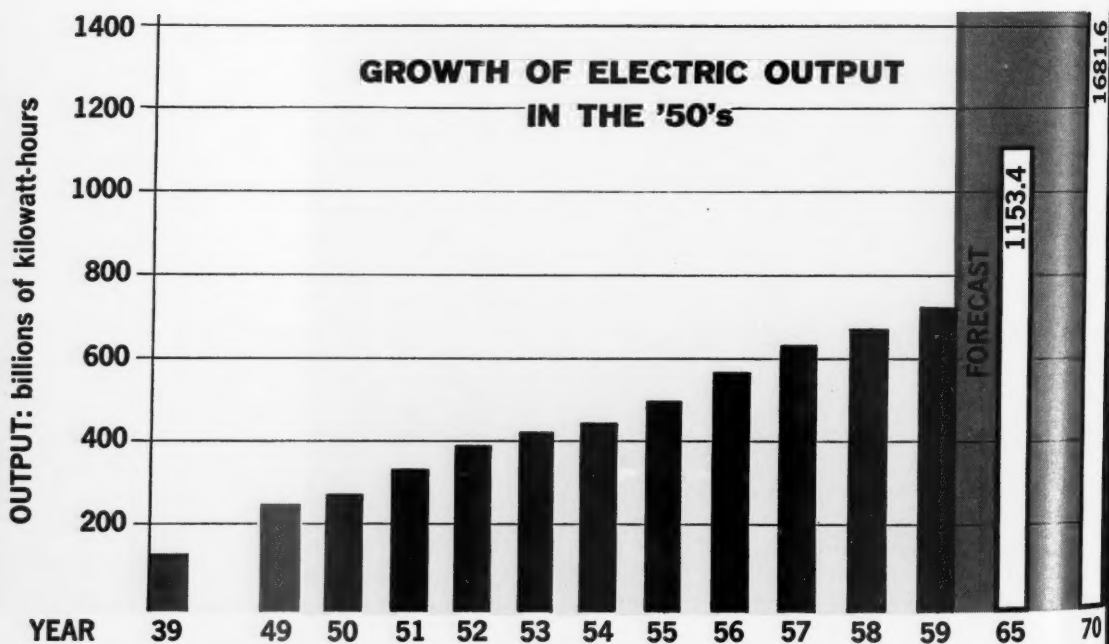
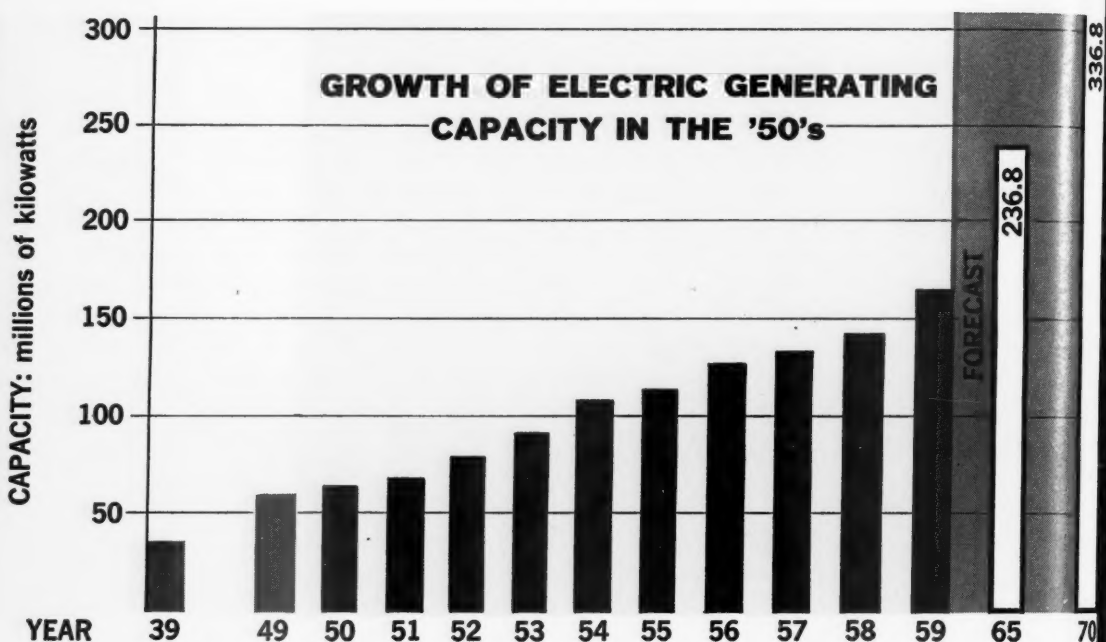
NEW YORK 22, N. Y., 300 Park Ave.

HOUSTON 2, TEXAS, M&M Building

JACKSON, MICHIGAN, 209 E. Washington Ave.

WASHINGTON 6, D. C., 1612 K Street, N.W.

# Report on an investment of \$4



DATA CREDITS: Charts and certain text data based on information published in magazine, *Electrical World*. Other sources of text data: publications of Federal Power Commission, Edison Electric Institute and Electric Companies Public Information Program.



of \$40,000,000,000

## ...which has enabled Americans to live better and produce more

One word, more than any other, underlies the vast rate of expansion in U. S. productive capacity and U. S. progress toward ever easier and pleasanter living. That word is **ELECTRICITY**. With about 6 per cent of the world's population, the United States produces nearly 40 per cent of the world's electric energy . . . and more than three times as much as the U.S.S.R., the next largest producer.

The decade of the fifties witnessed spectacular progress in the production and use of electrical energy, made possible by an investment of nearly \$40 billion for construction of utility facilities. Almost half of this huge sum was spent for generating facilities, increasing the industry's installed capacity by 150 per cent. In other words—in this one decade—the industry installed two and a half times the capacity it had achieved in the seven previous decades of its existence.

### Who has benefited

As a result of this vast expansion, the electrical power used by the average American factory worker today is equivalent to the muscular energy of nearly 300 men . . . and the average American housewife utilizes the electrical equivalent of several servants in the performance of her household chores. Ten years ago, the average annual residential consumption of electricity was 1830 kw-hr. Last year it was 3563, nearly twice as much . . . and the predicted figure for 1970 is 7,000. The country's total use of electrical energy in the fifties was nearly two and a half times as much as in the previous decade.

### How about the cost of electricity

An even more remarkable aspect of the industry's record of growth and achievement is the degree to which cost to the consumer has been kept down. Despite rate increases in recent years, and the necessity for further increases in the years ahead, the average residential rate per kw-hr the country over has followed a consistently down-

ward trend and last year was lower than in any preceding year. The ability of the industry to resist the inflationary trend, which has so greatly increased the cost of virtually all other products, has been due, in part, to ever increasing demand, but also it reflects the persistent and effective efforts of utilities and their equipment suppliers to increase efficiency and thus reduce costs of generation and distribution.

### Combustion's role

In the achievement of higher efficiency, Combustion Engineering has played an important part. For C-E research and development has been responsible for many of the notable advances in boiler design which have increased generating efficiency. No wonder then that C-E boilers account for a very substantial part—over 40 per cent—of the new steam-generated capacity installed in the past decade. And steam-generated capacity accounts, presently, for about 80 per cent of total utility capacity.

A current example of C-E design achievement is a boiler recently placed in operation at the Eddystone Station of the Philadelphia Electric Company designed to produce steam at the high-pressure and temperature ever used in commercial power practice (5000 lbs. per sq. in. and 1200 deg. F.). By so doing, this station will utilize less fuel to produce a kilowatt-hour than any other power station in the world.

### What lies ahead

And now a look at the future. As the charts opposite show, the next decade promises to far exceed the one just past in expansion of capacity and the use of electricity in homes and industry. Through continued emphasis on research and development, Combustion is planning to assist its utility customers in accomplishing their most important objective—the ever more efficient and economical generation of electricity.

**COMBUSTION**

Combustion Engineering Building



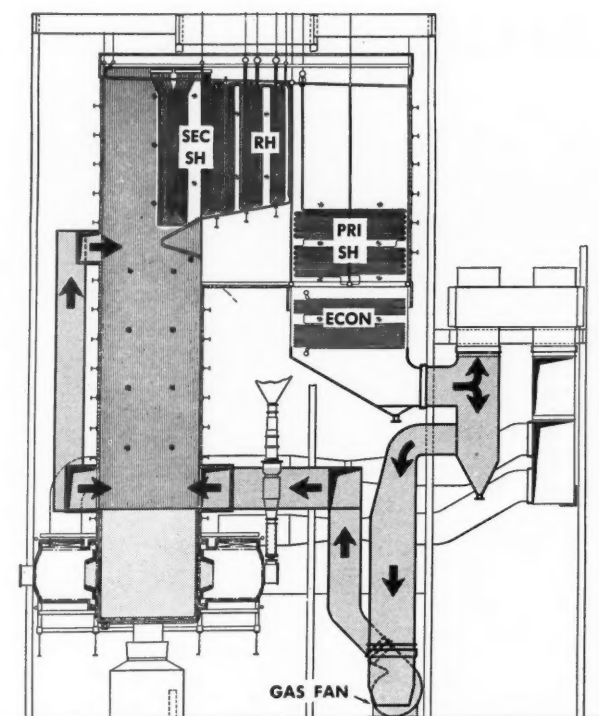
**ENGINEERING**

200 Madison Avenue, New York 16, N. Y.

C-253

*This advertisement appeared in February in Fortune, Business Week and Wall Street Journal.*

**“105 Years”  
on-the-line  
Prove B&W  
Gas Tempering**



**Introduction of "cool" flue gases near furnace exit prolongs superheater tube life, reduces superheater maintenance, cuts alloy requirements, and prevents slagging with even low grade coals.**

105 years of unit generating experience is B&W's proof that gas tempering is the better way to provide an advanced degree of superheater tube protection.

Gas tempering in these boilers protects superheater tubes from excessive gas temperature, eliminates "enameling" of molten slag on tube convection surfaces — a major problem in burning low grade coals — reduces superheater maintenance and permits economies in over-all plant construction.

In a drum type or a B&W Universal Pressure® Boiler, gas tempering offers the solution to many vexing and often cost-building problems. For an analysis of gas tempering, and illustrations of its application, write for bulletin G-96. The Babcock & Wilcox Company, Boiler Division, Barberton, Ohio.



G-960

**B & W**

THE BABCOCK & WILCOX COMPANY

**BOILER DIVISION**

# Twofold Benefits From The **Analysts Journal**

1. Its timely articles by the nations leading security analysts and economists keep you informed as to methods and trends in the security markets. You will be better able to present your company in its most favorable light if you know the trend of financial thinking as expressed in the official publication of the Security Analysts.
2. Its advertising pages provide a means of putting your story across to the Analysts. There is no more direct and effective way to contact this influential group of investment specialists than to advertise in their own quarterly Journal.

*To Keep Abreast of Investment Markets*

**READ THE ANALYSTS JOURNAL**

•

*To Keep Investment Markets Abreast of Your Company*

**ADVERTISE IN THE ANALYSTS JOURNAL**

PUBLISHED FIVE TIMES A YEAR BY THE NATIONAL FEDERATION OF FINANCIAL ANALYSTS SOCIETIES

---

#### THE ANALYSTS JOURNAL

82 Beaver Street, Room 1512-14  
New York 5, N. Y.

*Gentlemen:*

- ☐ Please enter my subscription for one year at the subscription rate of \$5.00—United States; \$5.50—Canada.
- ☐ Please send me your advertising brochure.

Name .....

Address .....

.....

.....

# PUSH BUTTON PEAKING PLANT FOR MAINE PUBLIC SERVICE COMPANY



Electro-Motive Power plant to supply power  
for peak loads, system reserve and area protection.

For details, turn page . . . . .



## *Maine Public Service Company Installs*

# ELECTRO-MOTIVE PEAKING AND RESERVE PLANT

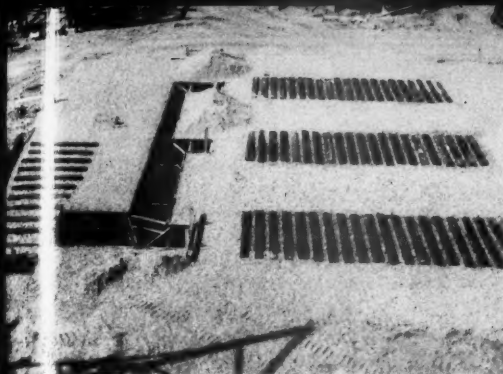
Load study determines need for peaking power.

The decision by Maine Public Service Company to install Electro-Motive peaking equipment resulted from a systems study which pointed up the need for additional generating capacity to handle increased peak demands. An Electro-Motive 4200 KW plant was selected for these reasons:

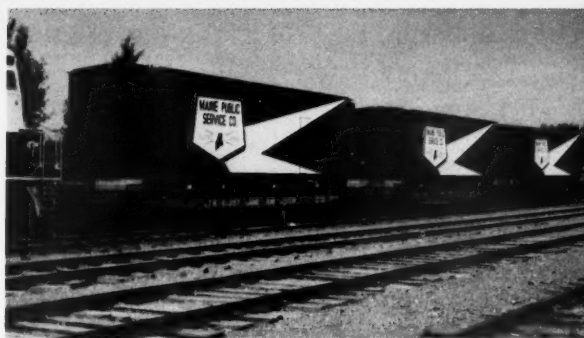
- **Low investment.** On the Maine Public Service System, the Electro-Motive plant has an annual fixed charge of less than \$17 per KW per year compared with \$28 per KW per year for alternative equipment. Thus, the Electro-Motive plant provides an economical solution to short duration peak demands.
- **Unattended, remote operation.** The Maine Public Service plant is operated by push-button control from the company's central dispatching headquarters in Presque Isle, four miles from the substation where the plant is located. The plant comes on line and shuts down automatically on signal from the dispatcher.
- **Quick start.** The plant comes on line and up to full load in 60 seconds on quick start, or 90 seconds on a normal start. Preparation time not required for peak. Immersion oil heaters keep engines ready for instant starting. Because of this, the plant qualifies as a reliable source of power for systems reserve and area protection.

### Portable components simplify installation

Each of the components in the Electro-Motive plant is contained in a sound-deadened, weather-proofed housing. This unitized, self-contained design permitted installation costs of under \$17 per KW for Maine Public Service Company. (Cost included shipping, site preparation, fuel tank, material and labor for electrical connections.) How the plant was installed is demonstrated in this sequence of photos:



**1** Preparation of site at the station began before plant arrived. Wood ties are set in crushed rock fill as foundation for skid-mounted components. Cable trough provides means for connecting cables and service lines. Note absence of concrete or other costly foundation work.



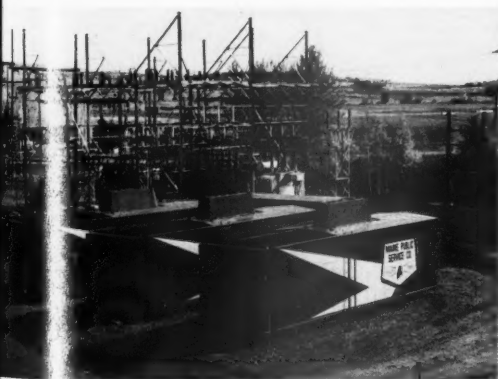
**2** Plant was shipped by rail to Presque Isle from Electro-Motive Division in LaGrange, Illinois. Components are designed to ship on any standard flat car and meet standard railway clearance requirements.



**3** Truck trailers were used to transport the components to the installation site at Flo's Inn station, four miles from Presque Isle. Components were styled in attractive green and white colors—caused favorable attention they passed through the city.



**4** At the site, cranes unloaded components onto the foundation ties. Engine-generator sets, balanced and vibration-free, eliminate anchoring or tie-down. Located right at the step-down substation serving the load, the plant's full capacity can be used where needed. This eliminates line loss which would occur if it were placed at the central station.



**5** Completed installation three weeks later. The following week, after test and adjustment, the plant was qualified for commercial service for an average two hours a day. If desired, it may be moved to a new site as quickly as it was installed. A fourth generating unit may be added to boost capacity at low incremental cost.

For an analysis of the savings that can be derived from Electro-Motive peaking equipment on your system, contact your Electro-Motive representative.

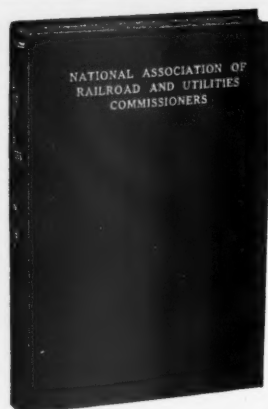


## ELECTRO-MOTIVE DIVISION GENERAL MOTORS

La Grange, Illinois

Sales-engineering offices: Chicago, New York, St. Louis, San Francisco

In Canada: General Motors Diesel Limited, London, Ontario



# PROCEEDINGS 1959 CONVENTION AT PHILADELPHIA, PENNSYLVANIA NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS

***THIS edition contains valuable material on the subject of regulation of rates and services of public utilities and transportation companies including the following:***

Rates of Public Utilities and Transportation Agencies, Valuation, Railroad Problems, and Regulation of Public Utilities, Panel Discussion on the subject of "Inflation and Its Effect on Utility Regulation of Rates and Utility Financing," Addresses on "Legislation Affecting the Federal Regulatory Process" and "The Impact of the Supreme Court Decision in the Service Storage and Transfer Case." This volume contains a complete transcript of the addresses and committee reports of the 1959 Philadelphia meeting. The book is printed and bound in regular book cover.

Price \$10.00—Approximately 500 Pages

## OTHER PUBLICATIONS OF THE ASSOCIATION

<b>1957—Uniform System of Accounts for Water Utilities</b>	
Class A & B—128 pages	
Accounts for utilities having annual water operating revenues of \$250,000 or more ..	\$4.50
Class C—100 pages	
Accounts for utilities having annual water operating revenues of \$50,000 or more but less than \$250,000 ..	3.50
Class D—64 pages	
Accounts for utilities having annual water operating revenues of less than \$50,000 ....	2.00
<b>1958—Uniform System of Accounts for Electric Utilities</b>	
Class A & B—169 pages	
Accounts for utilities having annual electric operating revenues of \$1,000,000 or more	4.50
Class C—125 pages	
Accounts for utilities having annual electric operating revenues of \$150,000 or more but less than \$1,000,000 ..	3.50
Class D—59 pages	
Accounts for utilities having annual electric operating revenues of less than \$150,000 ..	2.00
<b>1958—Uniform System of Accounts for Gas Utilities</b>	
Class A & B—212 pages	
Accounts for utilities having annual gas operating revenues of \$1,000,000 or more ....	4.50
Class C—130 pages	
Accounts for utilities having annual gas operating revenues of \$150,000 or more but less than \$1,000,000 ..	3.50
Class D—60 pages	
Accounts for utilities having annual gas operating revenues of less than \$150,000 ....	2.00
<b>1958—Regulations Governing the Preservation of Records of Electric, Gas and Water Utilities</b>	
Telephone Separations Manual (Revised October, 1957) .....	1.00
Telephone Separations Manual (Revised October, 1957) .....	2.00
<b>Local Service Telephone Rates (Revised 1957)</b>	
This includes the rates for all exchanges of the Bell System Companies, the rates in exchanges servicing cities of 50,000 population or more (both Bell and Independent), and a tabulation of exchanges which had a ten cent coin telephone rate as of June 30, 1957. (with set of revised pages for 1958) .....	
	2.00
<b>Local Service Telephone Rates—Set of 75 revised pages only for 1958 .....</b>	
	1.25
<b>Depreciation:</b>	
1943—1944 Reports of the Committee on Depreciation. A comprehensive and complete analysis of the problems of depreciation on public utility regulation .....	4.50
1946—Methods of Pricing Retirements from Group Property Accounts .....	1.25
1948—Half Cycle Methods of Estimating Service Life .....	1.00
1948—Letter Symbols for Mathematics of Depreciation .....	1.00
1959—Report of Committee on Depreciation .....	.15

(When remittance accompanies order, we pay forwarding charges)

**NATIONAL ASSOCIATION OF RAILROAD AND  
UTILITIES COMMISSIONERS**

P. O. BOX 684

Washington 4, D. C.

**"Sure it's a great idea  
but we were  
only using 26% of it!"**



"We've had the Payroll Savings Plan for U.S. Savings Bonds in our outfit for years. We think it is good for the Country and good for our company—and it goes without saying it's good for the saver. I had assumed we had a large participation by our people. But when I checked up last month I found that only 26% of our employees were regular users of the plan. In a company our size there is always a certain amount of personnel turnover, and there are always some people who are going to subscribe . . . next payday, maybe.

"So what I did was contact our State Savings Bonds Director. He helped us put on a company-wide campaign that reached every employee personally to point out the advantages of buying new 3½% Savings Bonds, *regularly*. Today we have more than 50% of our people using the plan, and we're going on from there!"

Perhaps *your* organization, too, has been taking your Payroll Savings Plan for granted. It's a great idea, but its value to your people and to your company increases with the number of employees who use it, *every payday*. Let your State Savings Bonds Director show you how easy it is to get your company back in the high value area of participation. Or write Savings Bonds Division, U.S. Treasury Department, Washington, D.C.



U.S. SAVINGS BONDS—OLD OR NEW—EARN ½% MORE THAN BEFORE

**Public Utilities Fortnightly**



U.S. GOVERNMENT DOES NOT PAY FOR THIS ADVERTISEMENT. THE TREASURY DEPARTMENT THANKS, FOR THEIR PATRIOTISM, THE ADVERTISING COUNCIL AND THE DONOR ABOVE.



# The P.U.R. Guide

► A new and different approach to the educational needs of utility employees — called **THE P.U.R. GUIDE**—is now widely in use throughout the industry. Somewhat descriptively, the **GUIDE** is referred to as “a journey of understanding.” It takes the user through the economics of public utilities and through many other non-technical phases of utility operation. It was organized by and is issued under the general supervision of an experienced staff of specialists.

► **THE P.U.R. GUIDE** program is a systematically and consecutively arranged series of weekly lessons, in pamphlet form, offering a simplified, progressive, step-by-step story about the nature of the utility business, its important place in the American economy, the present conditions under which it is conducted, its day-to-day objectives and responsibilities, the existing problems with which it is confronted and other current subjects arising in connection with organization, financing, management, operation and regulation. This program adds guidance to experience in the development of the company “management team.”



## Features of THE P.U.R. GUIDE

- 50 issues of 8 pages (one each week)
- Certificate of satisfactory completion
- Glossary of words and terms and complete index
- Ring binder embossed with enrollee's name
- Leader's Manual for group discussion
- Occasional reprints from *Public Utilities Fortnightly*
- Enrollments on company order only

## Comments about THE P.U.R. GUIDE

Our Company is currently involved in several training programs, and I feel qualified to evaluate the information that you are sending out. I think this type of material is, without a doubt, the very best that could be obtained for key utility employees.

*Director of Personnel, Electric Company*

We feel that even those who have been in the utility industry for many years can learn much by just reading the material.

*District Manager, Electric Company*

We all feel that this “information program for utility employees” is a program that is needed in the public utility industry.

*Vice President, Gas Company*

I am sure that the total series of 50 will prove of inestimable value to the utility industry.

*Vice President and General Manager,  
Telephone Company*

**THE P.U.R. GUIDE** program is the best basic public utility information series I have even encountered.

*Vice President, Gas Company*

Two things have particularly impressed me about **THE P.U.R. GUIDE**. First, is the complete manner in which your editors treat the various topics; second the simplicity in writing.

*Employment Supervisor, Gas Company*

There is a definite need for such a type program in our industry.

*Training Assistant, Electric & Gas Company*

*Those in charge of employee education or training may obtain further information from:*

**PUBLIC UTILITIES REPORTS, INC., Publishers**

**332 Pennsylvania Building**





**Washington 4, D. C.**



# UTILITIES

## *A.l.m.a.n.a.c.k*

### MARCH - APRIL

<p><b>Thursday—17</b></p> <p><i>Advertising Federation of America, Ninth District, begins convention, Lincoln, Neb.</i></p>	<p><b>Friday—18</b></p> <p><i>National Association of Corrosion Engineers ends five-day annual conference and corrosion show, Dallas, Tex.</i></p>	<p><b>Saturday—19</b></p> <p><i>Engineers Joint Council will hold nuclear congress, New York, N. Y. Apr. 3-8. Advance notice.</i></p>	<p><b>Sunday—20</b></p> <p><i>Rocky Mountain Electrical League begins electric meter institute, Denver, Colo.</i></p> <p></p>
<p><b>Monday—21</b></p> <p><i>National Electrical Manufacturers Association begins national electric house-heating exposition, Chicago, Ill.</i></p>	<p><b>Tuesday—22</b></p> <p><i>Wood Pole Conference begins, Oregon State College Campus, Corvallis, Ore.</i></p>	<p><b>Wednesday—23</b></p> <p><i>Mid-West Gas Association ends three-day annual meeting and convention, St. Paul, Minn.</i></p>	<p><b>Thursday—24</b></p> <p><i>Oklahoma Utilities Association begins annual convention, Oklahoma City, Okla.</i></p>
<p><b>Friday—25</b></p> <p><i>New England Gas Association ends two-day annual meeting, Boston, Mass.</i></p>	<p><b>Saturday—26</b></p> <p><i>American Water Works Association, New York Section, will hold annual meeting, Binghamton, N.Y. Apr. 5-7. Advance notice.</i></p>	<p><b>Sunday—27</b></p> <p><i>Florida-Georgia Gas Association will hold convention, Palm Beach, Fla. Apr. 8, 9. Advance notice.</i></p> <p></p>	<p><b>Monday—28</b></p> <p><i>Ohio Telephone Association begins annual convention, Columbus, Ohio.</i></p>
<p><b>Tuesday—29</b></p> <p><i>Annual American Power Conference begins, Chicago, Ill.</i></p>	<p><b>Wednesday—30</b></p> <p><i>Gas Appliances Manufacturers Association begins annual meeting, White Sulphur Springs, W. Va.</i></p>	<p><b>Thursday—31</b></p> <p><i>Edison Electric Institute, Area Development Committee, begins meeting, Atlantic City, N. J.</i></p>	<p><b>APRIL</b></p> <p><b>Friday—1</b></p> <p><i>Maryland Utilities Association begins annual spring business meeting, Baltimore, Md.</i></p>



Courtesy, U. S. Bureau of Reclamation

### Keystone of Columbia Basin

*Mighty Grand Coulee, world's greatest power plant, wastes millions of horsepower over its Niagara-like spillway during the high water season of the year. Its record hourly output — achieved in 1953 — of 2,324,000 kilowatts, was big enough to have filled the electric needs of a city the size of Chicago.*

# Public Utilities

*FORTNIGHTLY*

VOLUME 65

MARCH 17, 1960

NUMBER 6



## High Mountain Sheep Dam and the Snake River Salmon Problem

By A. B. CURTIS\*

The soundness of building the High Mountain Sheep dam has been confirmed by the Army Corps of Engineers. It has also pointed out the poor economics of fifteen to eighteen years of power loss required to solve fish problems at the Nez Perce project. The new Salmon river sanctuary bill, which would permanently eliminate Nez Perce, may well be favored over Senate Concurrent Resolution 35 that urges a moratorium on Snake river dam construction until the fish problem is resolved. High Mountain Sheep and the fish sanctuary are the answer, but public power advocates do not give up easily.

**S**PEARHEADED by the National Hells Canyon Association, the vocal elements of public power are gambling for high stakes in the current attempt to block private development of the \$250 million High Mountain Sheep hydroelectric project. Located between Oregon and Idaho on the Snake river some 58 miles downstream from the tail waters of

the licensed Idaho Power Company Hell's Canyon project, it would be the highest arch-type dam in the country (690 feet) and the largest private power producer (2 million kilowatts ultimate).

The welfare of enormous migrations of salmon and steelhead up and down the Salmon river has become a crucial factor in this new Snake river power fight.

Leading the die-hards of the National Hells Canyon Association is the Northwest Public Power Association's executive

\*Mayor, Orofino, Idaho. For additional personal note, see "Pages with the Editors."

## PUBLIC UTILITIES FORTNIGHTLY

secretary, Gus Norwood, who has long advocated federal construction of a project known as Nez Perce—the alternative to High Mountain Sheep. The Nez Perce dam site is located on the Snake only three miles below the private company site and about two miles below the mouth of the Salmon river, the greatest single remaining salmon tributary. This dam would present a 700-foot barrier to Salmon river fish on their migrations to and from the sea.

It is conceded that about one-third of the Columbia river migrants, including half of the prized spring Chinook salmon, would be destroyed by such an obstruction of the Salmon river. Because of its location, smaller fish runs, and other technical reasons, migrant fish to the upper Snake will find the private dam proposed at High Mountain Sheep a different and less formidable obstacle than fish confronted with the three-river impoundment of Nez Perce.

THE apparent strategy of the public power advocates is to block all power development at and above the Nez Perce site until some future time—definitely limited—when a possible solution of fish passage at that dam may be found. A pending Senate resolution (S Con Res 35) calls for at least a five-year moratorium. This was being considered by the Senate Interstate Commerce Committee at this writing, with considerable sentiment for modification. What may happen to it, if anything, by the session's end is anybody's guess.

The purpose of this proposal is to force postponement of any construction to such time as the squeeze of regional power shortage will be sufficiently acute as to

counterbalance political pressure by fishing interests. When that day comes Nez Perce would be built regardless of the fate of the tremendous horde of Salmon river migrants. Yet some of the more credulous friends of the fish have joined forces in promoting this deceptive moratorium with their long-time natural antagonists, the dam-building public power crowd whose ruthless past disregard for the fate of the salmon runs has left unhealed scars.

As a clear illustration of the real attitude of Nez Perce backers about the fish interests, the record, made as recently as this January when the State Water Resources Board of Oregon held hearings on Pacific Northwest's application for Mountain Sheep, contains this testimony of Gus Norwood: "... we should build the Nez Perce project right now... power values are 20 times greater than that of the fish."

Proponents of Nez Perce are trying to transfer the Hell's Canyon controversy to Nez Perce when the issues are not the same. The big drive of the supporters of a high Hell's Canyon dam—never technologically justified—was that privately financed river developments were "pigmy" in scope and could never match government dams in public benefits—storage, power, and flood control. Surely by no stretch of the imagination can High Mountain Sheep dam be classed as "pigmy," being as high as any other dam ever proposed in this area, towering 140 feet higher than the mighty Grand Coulee and listed as the highest structure of its kind in the United States and the second highest in the world.

In the Pacific Northwest, our interest in the outcome is direct and often per-

## HIGH MOUNTAIN SHEEP DAM AND THE SNAKE RIVER SALMON PROBLEM

sonal. The result may set or affect the pattern of our political and economic future.

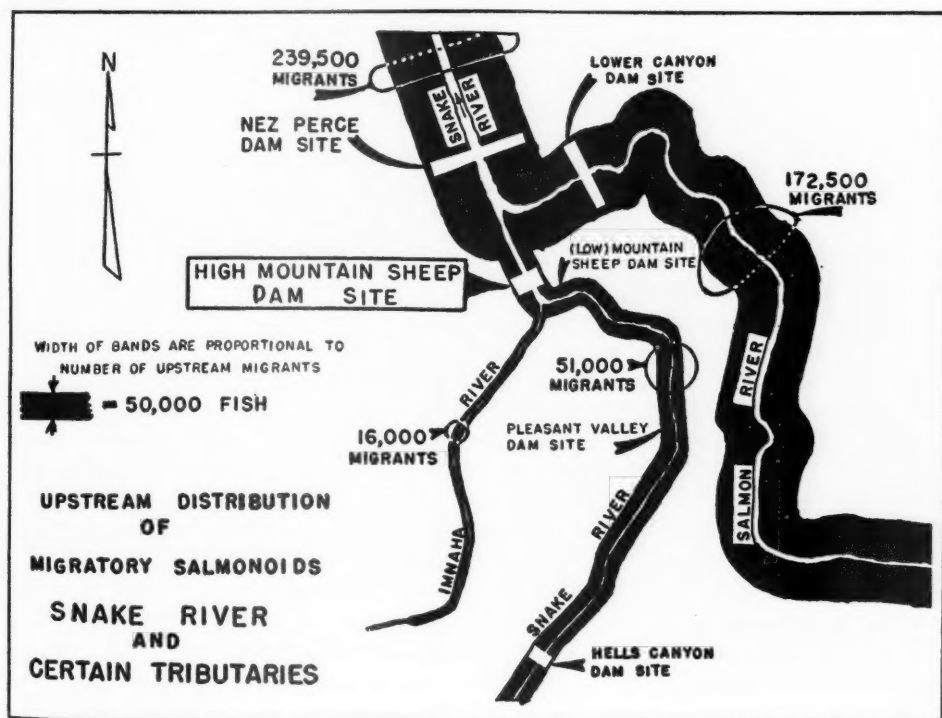
After twenty-five years of public power debate there are few neutrals. From a grandstand seat on the first base line at Orofino, Idaho, I have always been as partisan as a Dodgers' fan. From the beginning I have been rooting for private power. And when occasion permitted I have pitched in to help. With Lincoln, I believe that government should undertake no activity which the citizen can perform as well. The Nez Perce-High Mountain Sheep debate is a case in point.

### Disillusioned about Public Power

**I**N the past twenty years many early supporters of public ownership have be-

come completely disillusioned with the program as it has worked out in bureaucratic practice. Even some important supporters of local public power have become wary of more federal control through monopoly of power supply.

Experience has shown that public power not only takes a free ride on the federal taxpayer, but it also kills the goose that lays the golden egg of local taxes. Dislocated tax structures particularly penalize the schools. The local electric utility company is almost invariably the largest single taxpayer. In Idaho alone they carry almost 11 per cent of local taxes. Private development of the three Hell's Canyon dams is adding millions of dollars annually to local tax revenues. When Washington Water Power Company built the





## PUBLIC UTILITIES FORTNIGHTLY

Cabinet Gorge dam in northern Idaho, over \$500,000 was added to the annual county tax revenue. If the Cabinet Gorge facilities had been tax-exempt public power, taxpayers would have been compelled in the last decade of increasing costs to pay some 38 mills more for county and school purposes. Federal development of Cabinet Gorge would have been a blight instead of a blessing to this county.

**A**NOTHER disappointment was the fact that the payrolls of the types of heavy power-consuming industries attracted by the artificial federal power rates have been disproportionately small in relation to the volume of power consumed. In my opinion a handsome majority of the people of the four affected states now emphatically favor taxed, publicly regulated, and controlled private operation of the electric utilities.

However, the power of the public ownership minority is extremely effective. It is politically organized and controlled by a few clever, aggressive, and ambitious men. By constant activity and timely agitation they have created a much larger-than-life picture of the public power movement which has tended to intimidate some politicians. These leaders know where and when and how to apply with maximum efficiency the political leverage of a small, compact, and controlled minority. In alliance with like-minded interests of other areas, they operate quite successfully at the federal political level.

### A Little History

**T**HE background of this story begins with the early days of the New Deal. When federal public power came to the Columbia basin in 1933 with the construc-

tion of Bonneville and Grand Coulee, to be followed by a long series of additional dams, private power was temporarily obliged to surrender responsibility of supplying its own generating capacity. Like Lazarus, it survived on the left-over crumbs from the table of Uncle Sam's legally endowed rich man, the preference customer. By law, private power was permitted to purchase only such power as was not required by public utility districts and other public—and tax-free—agencies falling within the purview of the legalized tax loophole called the preference clause. For a time these kilowatt crumbs were ample. While cheap federal power was abundant, with enough left over to supply private distributors, extensive construction of private generation could not be economically justified. And without this private market, federal power would have operated at a loss for years.

By 1950 the picture had changed. The time was rapidly approaching when growing preference power demands would pre-empt the foreseeable federal supply. Private companies took bold and imaginative steps toward emancipation from an untenable position of suppliant dependence.

**I**N this all-hydro country, existing private water-power installations were expanded to fullest capacity. Under Federal Power Commission licenses an additional 4.5 million kilowatts of nonfederal power were developed. Included in this block of new power was the initial 800,000 kilowatts and ultimate 1,175,000 kilowatts of the Idaho Power Company's three-dam license at Hell's Canyon.

But these great strides have only given the private companies a brief respite from

## HIGH MOUNTAIN SHEEP DAM AND THE SNAKE RIVER SALMON PROBLEM

### High Mountain Sheep

#### Wins OK



"... the soundness of the High Mountain Sheep proposal has been authoritatively confirmed. As recently as January 11th of this year the Corps of Engineers published its report covering its exhaustive four-year review of the Columbia basin water resource development program. In his letter of transmittal to the Secretary of the Army, General E. C. Itschner, Chief of Engineers, reported: 'The problem of passing migratory fish at high dams, in the opinion of authoritative sources, cannot be resolved in less than eight to ten years, and, because of the unique fisheries problem presented, they state that **at least fifteen to twenty years might be necessary** to resolve the problem that would be created by the Nez Perce project. . . . Since construction of either the Lower Canyon or the Nez Perce project is precluded until the fish problem is solved, which may be fifteen years or more, the benefits that would be realized from the High Mountain Sheep project would outweigh the initial economic superiority of the Nez Perce project.'"

the constant pressure of load growth. By 1965-66 they will again find themselves short of power with the preference customers again pre-empting all of Uncle Sam's firm power. Unless they can secure another ample source of cheap hydro power, they will be forced into generation of high-cost steam power. While local public power agencies will be buying from Uncle Sam at 2.4 mills, the business companies will be generating steam power at 6 or 7 mills. The combination of the competitive advantage of a 25 per cent tax differential, and a 50 per cent power interest subsidy on federal generating and

transmission installations, with the added high cost of fuel generation, might well suffice to destroy private power.

#### The Solution Seems Obvious

**H**IGH MOUNTAIN SHEEP is the inevitable answer. The initial capacity of 1 million kilowatts will relieve the immediate pinch. As needed, additional capacity up to 2 million kilowatts will be added. This dam would provide the needed years of grace until additional sources of power can become available. A breakthrough to cheap atomic power must

surely come; large storage projects on the Columbia river in Canada will some day be developed with major increases in prime power south of the border; dams which would now destroy or severely deplete the great salmon runs of the Columbia and its tributaries will eventually be constructed when new techniques for fish handling have been developed. The balance of regional demand and supply can be maintained for some time by a series of presently planned additions—plus High Mountain Sheep.

The power squeeze begins five or six years from now. If construction were started this year—a procedural improbability—High Mountain Sheep could be completed just in time, in five and a half years.

**T**HE fight for high dam power development in this section of the Middle Snake began in earnest over four years ago. Pacific Northwest Power Company applied in September, 1955, for a license to construct a relatively high multiple-purpose dam at Pleasant Valley, a few miles upstream from the present location, coupled with a much lower dam near the present Mountain Sheep site. Pacific Northwest Power Company is a generating company wholly owned by four major utility companies operating in the four basin states: Montana Power Company, Washington Water Power Company, Pacific Power & Light Company, and Portland General Electric Company.

In the selection of the Pleasant Valley-Low Mountain Sheep sites, the determining consideration was fish. Low Mountain Sheep, downstream from the Pleasant Valley dam, had been located not only above the Salmon but also above the

smaller but not negligible Imnaha river. Under this proposal anadromous fish continuing up the Snake would encounter no different and no greater difficulties than at the three Hell's Canyon projects above where new, but not yet wholly proven, passage devices were to be placed in operation.

#### FPC Reverses Engineers and Examiner

**N**EZ PERCE would have been the logical choice but for the fish factor. It would control three rivers—the Snake, Salmon, and Imnaha—with one dam; but the Salmon river is the greatest fish-producing tributary of the Columbia. In rejecting Nez Perce the company followed the long-time recommendations of the Corps of Engineers which had dismissed that site in its overall basin planning because of the great Salmon river fish runs.

However, the Federal Power Commission, after lengthy hearings on Pleasant Valley-Low Mountain Sheep, took a different view. A year ago it overruled the findings of its own examiner and virtually invited application for a license at Nez Perce. In effect, the commission asserted that the experimental new fish passage facilities being tried out at other licensed projects and planned for Brownlee, first of the three Hell's Canyon dams, gave enough promise to justify the risk of early construction of Nez Perce.

The FPC decision horrified the numerous sport fishing groups and commercial fishing interests. The Snake river total run of salmon and steelhead above the Salmon and the Imnaha is listed at 51,000 adults of the various species, while the Salmon river alone provides spawning grounds for 172,500. Whatever fate may await the

## HIGH MOUNTAIN SHEEP DAM AND THE SNAKE RIVER SALMON PROBLEM

upper Snake salmon will already have been determined by the facilities at the Idaho Power Company installations. Since a dam had to be built near this point, the conservationists preferred Pleasant Valley over any other site.

**T**HE action of the commission was a serious setback to Pacific Northwest Power Company. Under a preliminary permit it had already spent \$2.5 million on advance work. Even more serious was the fact that its companies were nearly three years closer to the cut-off date when the power squeeze begins. Moreover, to respond to the tacit invitation to apply for a license at Nez Perce was simply not realistic.

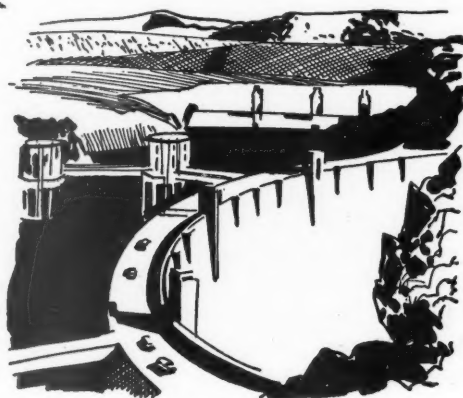
Quite aside from the fact that Nez Perce would require two more years to build, the dam faced solidly unanimous opposition of a new and growing economic and political force, the sports fisherman. Shocked into action by the calamitous destruction of the upper Columbia salmon runs by the erection of the 500-foot Grand Coulee dam, the Columbia basin sports fishermen have grown in organization and political power ever since.

### Power Weighed against Fish

**I**F Columbia river fish and fishing were weighed against the value of power on a dollars-and-cents basis, power would obviously tip the scales heavily. On the basis of the imponderable values which

## Public Power Gets a Free Tax Ride

**"E**XPERIENCE has shown that public power not only takes a free ride on the federal taxpayer, but it also kills the goose that lays the golden egg of local taxes. Dislocated tax structures particularly penalize the schools. The local electric utility company is almost invariably the largest single taxpayer. In Idaho alone they carry almost 11 per cent of local taxes. Private development of the three Hell's Canyon dams is adding millions of dollars annually to local tax revenues. When Washington Water Power Company built the Cabinet Gorge dam in northern Idaho, over \$500,000 was added to the annual county tax revenue."



## PUBLIC UTILITIES FORTNIGHTLY

count with the sports fisherman, the answer would be less conclusive. The Federal Power Commission gave little weight to this factor in favoring Nez Perce over Pleasant Valley. The commission assessed the annual commercial value of fish production of the Salmon and Imnaha rivers at \$4.2 million, less "the cost of taking, marketing, and processing the fish." Indisputably the power which would be generated by the additional volume of water from these two rivers would be more valuable on a dollars-and-cents basis. But do not try to tell that to a Columbia basin sports fisherman!

For it is the sports fisherman, as well as his sometime ally, the commercial fisherman, who must be reckoned with today. The number of sportsmen has grown enormously in recent years. As never before they have been organized, educated, and propagandized. They are enthusiastic hobbyists. It just is not good politics or good public relations to callously damage another man's hobby—especially when that hobby is the avocation of a substantial portion of the voting population. Through local, state, and national wildlife federations, these hobbyists are becoming potent "conservation" lobbyists, making this voting strength felt on state and national political levels.

**T**HE fishing license records for the four basin states for recent years tell a story significant to any dam builder. In the year 1940-41 there was a total of 565,700 fishing licenses issued, of which 530,000 were resident and 35,700 nonresident. Last year the totals had jumped to 1,245,000 over all, with resident licenses at 1,020,000 and nonresident 225,000. This represents a 92 per cent increase of resi-

dent licenses as against a population increase of 52.1 per cent. Nonresident licensing increased even more spectacularly, by 532 per cent. Here is one result of "the new leisure." Apparently the advent of the five-day week has brought in thousands of new week-end fishermen.

### Fishermen Pose Big Problem

**I**N my own state of Idaho where we once had about 13,000 out-of-state fishermen, last year we were hosts to 64,000. That business brings a lot of money into the state. Our resident licenses have also increased by 76 per cent. In Oregon local licenses trebled in the period.

With these considerations in mind, rejection of the Pleasant Valley application in favor of Nez Perce presented a puzzling dilemma for both public and private power interests. After screaming for Nez Perce for years, the public power people found themselves with an embarrassing endorsement of the project from the commission. Yet no Pacific Northwest congressional Representative or Senator would, if he cared for his political future, sponsor legislation to authorize it. The sports fishermen would assure that. And for all the reasons that they had not applied for the Nez Perce site in the first place, the private company could not now ask for a license there.

The Pacific Northwest Power Company had one choice left and it took it—it had to be High Mountain Sheep or nothing. Its proposal was a carefully studied plan to make maximum immediate use of Snake river power above the Salmon river.

### High Mountain Sheep Approved

**I**N the meantime the division engineer of the Corps of Engineers completed a new restudy of the "308" review report on



## HIGH MOUNTAIN SHEEP DAM AND THE SNAKE RIVER SALMON PROBLEM

Columbia river basin water resources, and included in the new "major water plan" a recommendation for High Mountain Sheep dam at the Pacific Northwest Power Company site. Later the Chief of Engineers affirmed this recommendation with the notation that, if the High Mountain Sheep project should be licensed for private construction, it should be "equal in scope and purpose" to the project recommended by the Corps. The amended application of Pacific Northwest Power Company already had met this requirement in all respects. When examined under the test of "best comprehensive development" of that part of the Snake and Salmon rivers, High Mountain Sheep alone will have 3.1 million acre-feet of usable storage and initial capability of 1 million kilowatts and ultimate of 2 million kilowatts at site. When combined with the "if-and-when-the-fish-problem-is-solved" Lower Canyon project, the total usable storage would be 5,250,000 acre-feet and the ultimate capability 3 million kilowatts at site. By comparison, Nez Perce would have only 4.8 million acre-feet usable storage and capability of 2,850,000 kilowatts. Downstream benefits also would be correspondingly greater for

the High Mountain Sheep combination.

This is a surprising development after so many years of glowing public power argument in favor of the great Nez Perce dam. Sound engineering analysis has destroyed this legend.

### Novel Plan Devised For Fish

**W**HILE High Mountain Sheep leaves the Salmon river open for its important fish migration, the company has proposed a novel and ingenious plan—made possible by the unique contour of the terrain—of separate passage for the 16,000 adult salmon and steelhead of the Imnaha river which would be impounded just above the dam.

The company proposes to separate the Imnaha fish from their upper Snake kin by means of the lure of agitated "attraction water" pouring down from the Imnaha at a point just below the tailrace and then provide them the means to actually swim to the headwaters. A 17-mile canal would be built from a point on the Imnaha above the reservoir level to the cliff side above the tail waters of the dam. The canal flow would then descend a long, gently sloping fish ladder—a series of wide

## Picture Was Different in 1950

**I**N this all-hydro country, existing private water-power installations were expanded to fullest capacity. Under Federal Power Commission licenses an additional 4.5 million kilowatts of nonfederal power were developed. Included in this block of new power was the initial 800,000 kilowatts and ultimate 1,175,000 kilowatts of the Idaho Power Company's three-dam license at Hell's Canyon. But these great strides have only given the private companies a brief respite from the constant pressure of load growth. By 1965-66 they will again find themselves short of power with the preference customers again preempting all of Uncle Sam's firm power. Unless they can secure another ample source of cheap hydro power, they will be forced into generation of high-cost steam power."

## PUBLIC UTILITIES FORTNIGHTLY

and broad low steps—amply studded with nature-like resting pools and riffles. Access to and from the spawning grounds would be free and natural. For adults milling about in the white water at the mouth of the canal, but which reluctantly linger before the long swim up the fish ladder, a second means of access to the canal 700 feet above is also provided. This is a sort of fish elevator, a tank located under the surface at the point of maximum turbulence, which periodically will be automatically raised up the cliff side and dumped into the canal above.

**T**HE whole scheme is built on the solid knowledge that each fish knows exactly what stream he came from as a fingerling. What drives him back to that particular spawning ground and how he knows that it is the right stream is a mystery of nature never penetrated by puzzled man. The outflow of Imnaha water from the canal will separate the Imnaha-born fish from their fellow travelers as selectively as a magnet will attract steel shavings and leave lead particles inert.

This brilliant plan will cost a fortune. To save an annual run of 16,000 adults, the company's plans as presented might require expenditure of \$15 million. Had it been available in 1955 the company might well have applied for High Mountain Sheep in the first instance, instead of Pleasant Valley.

### Engineers' OK Elicits Meritorious Idea

**A**s noted, the soundness of the High Mountain Sheep proposal has been authoritatively confirmed. As recently as January 11th of this year the Corps of Engineers published its report covering its exhaustive four-year review of the

Columbia basin water resources development program.

In his letter of transmittal to the Secretary of the Army, General E. C. Itschner, Chief of Engineers, reported:

The problem of passing migratory fish at high dams, in the opinion of authoritative sources, cannot be resolved in less than eight to ten years, and, because of the unique fisheries problem presented, they state that *at least fifteen to twenty years might be necessary* to resolve the problem that would be created by the Nez Perce project. . . . Since construction of either the Lower Canyon or the Nez Perce project is precluded until the fish problem is solved, which may be fifteen years or more, the benefits that would be realized from the High Mountain Sheep project would outweigh the initial economic superiority of the Nez Perce project.

**P**ERHAPS anticipating such a common sense report from the Engineers, the public power strategists nearly a year ago came up with a really fancy gimmick. Realizing that High Mountain Sheep construction automatically forecloses the last chance for Nez Perce, they now propose a moratorium in the form of a congressional concurrent resolution expressing the feeling of Congress that the FPC should grant no licenses for power dams on the Snake at and above Nez Perce for a period of five years, during which appropriate agencies could undertake a "crash" program to solve the fish problems. The resolution would not be binding on the commission, but it is doubtful if it would act contrary to such a resolution. It would not bar congressional authorization of Nez Perce at any time.

## HIGH MOUNTAIN SHEEP DAM AND THE SNAKE RIVER SALMON PROBLEM

Such a delay would, of course, play right into the hands of public power. Five years from now the pressure for construction of this great power site will be so heavy that with each following year the chances of saving the Salmon river run will be diminished. Meantime, private power would have been forced to higher-cost generation.

But such a foreclosure would not only hit private power companies. On the basis of the "net benefits," as calculated by the Corps of Engineers, which would be accruing from the construction of High Mountain Sheep alone, the area would suffer the staggering economic loss of at least \$180 million if the construction in the Middle Snake were delayed ten years while waiting for the fish problem to be solved. That is a pretty high price to pay for public development of Nez Perce—an inferior project in the first place.

### Moratorium Only a Pretext

At first glance the idea of suspending dam construction at this point until further study was favorably received by fish enthusiasts. Some went out on the limb too far to gracefully climb back. On second thought, the real intent of using the fish and wild-life groups as an innocent tool to benefit the wishes of public power became apparent.

Except for a hard core of antidam die-hards, most of our fishermen soon turned a cold eye on S Con Res 35. It had been introduced as a proposal to be studied, under the requested sponsorship of a number of northwest Senators, none of whom avowed authorship.

It was dropped into the legislative hopper on May 13th. Pretty soon the fisher folk began writing to Washington.

On August 24th Senators Church of Idaho and Neuberger of Oregon—also cosponsors of S Con Res 35—introduced a second bill (S 2586) which, if enacted, would prohibit federal or private construction of high dams on the Salmon river until future developments in fish passage and other techniques should warrant policy change.

### Fish Sanctuary Bill Proposed

As an alternative to S Con Res 35, the new Salmon river sanctuary bill would permanently eliminate Nez Perce dam, the reservoir of which would have drowned out 50 miles of the Salmon river valley. This bill would quiet the fears of some conservationists who think construction of Lower Canyon might follow High Mountain Sheep and that in the end they would be no better off than if Nez Perce were built in the first place.

An opportunity for a public showdown on the issues outlined here was afforded by hearings held by a subcommittee of the Senate Interstate and Foreign Commerce Committee at Astoria, Oregon, on November 10th and at Lewiston, Idaho, November 12, 1959. Senator Bartlett of Alaska presided. It was a time for the showing of hands.

As a usually propublic power newspaper reported, fish and wild-life witnesses presented an "almost solid front" against the Nez Perce temporary moratorium in favor of the permanent Salmon river sanctuary. Only a handful of die-hards held out. Even the heads of affected fish agencies of the state of Washington, core of public power sentiment, boldly stood up for the Salmon sanctuary bill.

An amusing side light was the sudden, Johnny-come-lately air of anxiety as to

## PUBLIC UTILITIES FORTNIGHTLY

the fate of the fish runs by spokesmen for public power. Although he did not mention that he was president of the National Hells Canyon Association—lately renamed the Northwest River Resources Association—which was represented by other witnesses, James T. Marr, as executive secretary of the Oregon AFL-CIO, read a long dissertation on the threatened fate of the salmon runs in a plea for the Nez Perce deal. The record later showed a telegram from an appropriate official of Oregon labor stating that there was no authority for anyone to speak for the union.

### The Camel's Nose Strategy

**I**N all, thirteen witnesses representing a complete cross section of fish and wildlife conservation organization in the basin area, spoke vigorously against the Nez Perce scheme and supported the Salmon river bill. Two small coastal groups still clung to the first proposition. Commercial canners who always oppose any dam anywhere stood with them.

Ernest E. Day, vice president of the Idaho Wildlife Federation, summed up the general feeling of the sports fishermen when he testified:

It would appear that this resolution, speaking very straightly as we like to do in the West, is an attempt to perhaps *buy time which would allow the Nez Perce people to get a foothold*. We would rather see one of these other dams started so as to prevent this terrible Nez Perce dam.

In the opinion of most observers the

public power Nez Perce gimmick was overwhelmingly rejected by the preponderance of the testimony.

In the early days of the present Congress, Senators Church and Neuberger made some strengthening amendments to their bill which they now call the Salmon River Preservation Bill. With snowballing support it has a chance of enactment at this session. But it is very doubtful if the Nez Perce deal will long survive.

**B**UT you have not heard the last of the Snake river salmon argument. The public power crowd will urge the FPC to stay put for Nez Perce even if that means delay in power development until the fish problem is solved. And proponents of High Mountain Sheep will contend that this project not only will avoid a serious and immediate power shortage, but will come within a realistic achievement of the commission's requirement of best "comprehensive development."

As I see it, "best comprehensive development" means exactly that, development of *all* the resources of a river to the best overall interest of the region. It means taking into account not only navigation, flood control, and power, but preservation of fish and wild life, enhancement of recreational opportunities, and yes! even tax benefits such as provided to the state and nation by private enterprise's development of our resources. High Mountain Sheep for flood control and power, and a fish sanctuary for the Salmon river as long as needed, would be a happy compromise.



# Antitrust Laws and Regulated Companies under the FPC



By the Honorable JEROME K. KUYKENDALL\*

Chairman, Federal Power Commission

**T**HE antitrust laws and the regulatory statutes administered by the Federal Power Commission present two different types of business regulation having different objectives and different philosophies. On the one hand we have the Sherman Act<sup>1</sup> and the Clayton Act<sup>2</sup> where the objective is to prevent monopolies, combinations, and agreements that will hinder the operation of the competitive forces of the market; on the other hand we have the regulatory statutes such as the Federal Power Act<sup>3</sup> and the Natural Gas Act<sup>4</sup> administered by the Federal Power Commission, that assume the existence of monopolies, combinations, and a large amount of control over the market. In fact, the Federal Power Act definitely encourages the pooling of facilities and resources in the public interest.<sup>5</sup> With

\*For additional personal note, see "Pages with the Editors."

The question has arisen in several situations in recent years whether public utility companies specifically regulated under federal statutes such as the Federal Power Act and the Natural Gas Act are thereby immune to alleged violations of antitrust laws under the federal statutes against monopolistic practices and restraints of trade. In this discussion the chairman of the federal commission which has the responsibility of administering the two federal regulatory statutes mentioned points out several legal factors and distinctions which should be considered in dealing with this question.

these divergent points of view there inevitably arises the problem of reconciling the two types of regulation. I believe that this can be done, as it has been done in the past, although problems will arise from time to time.

While I do not profess to be an expert on the antitrust laws, I shall attempt to show their impact on the regulatory problems facing the Federal Power Commission. First of all, I would like to remind you of the nature of our statutory responsibilities, and to discuss the nature of the industries which the Federal Power Commission regulates.

**U**NDER the Federal Power Act, the commission grants licenses for hydroelectric projects on navigable streams. Provision is made for regulating the kind of project to be built, prescribing account-

## PUBLIC UTILITIES FORTNIGHTLY

ing and determining rates so as to protect the public and the government. Secondly, the Federal Power Act provides for regulation of interstate electric utilities with respect to rates, mergers, issuance of securities, accounting, and so forth. The Natural Gas Act is similar to this second part of the Power Act, but, unlike the Power Act, requires that before interstate facilities are constructed or acquired by a natural gas company or before interstate sales are made, a certificate of public convenience and necessity must be obtained from the commission. The Natural Gas Act applies to the interstate pipeline companies and, since the Phillips case,<sup>6</sup> to the producers who transport or sell gas in interstate commerce.

It does not take elaborate analysis of this regulatory legislation to see that it is largely directed at those who have obtained or are trying to obtain privileges that usually exclude others from carrying on the same activity in the same place. Only one hydroelectric project can be built to take advantage of the fall of water at a certain point on a navigable river; ordinarily, only one pipeline is needed to serve a gas distributor or group of distributors, although eventually, in the face of a continually increasing demand for gas, we may authorize another pipeline to parallel the route of the original one.

### Incomplete Monopolies

I WANT to emphasize the nature of the electric and gas utilities because many people do not understand that this commission usually deals with situations that involve monopoly. This does not mean that every natural gas company or elec-

tric public utility is a complete monopoly. There are competing fuels available, particularly in the case of gas, such as coal and oil, and thus there is competition, but it is not competition as in a free market. There may also on occasion be rival utilities for the same market. This again is not free competition but a situation, for which some economists use the rather un-euphonious term, "oligopoly."

This lack of competition among utilities is, of course, not an evil thing. One gas pipeline or electric transmission line is clearly less costly than two such facilities of half the capacity. It is rather obvious that the larger a pipe the more gas it can carry per unit of cost. And one of the reasons that electric rates have increased so little in these times of inflation has been the installation of increasingly large generating units, and the installation of such units has been made possible by the increased size of the systems that transmit and distribute the power.

COMPETITION in the utility field is likely to result in dividing up the market, and this would mean the proliferation of facilities of smaller capacity at higher cost. It might also mean the completely wasteful duplication of facilities. Because of high fixed costs, competition between rival systems could result in price cutting in the area of competition to a point where rates would not return the full cost of service. On the other hand, the utility, if unregulated, might raise its rates above the cost of service in areas where competition did not exist. Thus utilities, including those subject to the Federal Power Commission, are not readily controlled by market forces and the antitrust laws therefore are not an apt means of regulation.

## ANTITRUST LAWS AND REGULATED COMPANIES UNDER THE FPC

### Does Regulation Repeal Antitrust?

THE question then arises as to what is the effect of the antitrust laws in a regulated field. I shall not try to answer this question generally, but in the field regulated by the Federal Power Commission certain principles seem to have been established. One is that the advent of regulation does not repeal the antitrust laws, but some kind of accommodation is necessary. Secondly, this commission is not empowered to determine whether a company is in violation of the antitrust laws but it must apply the policy of the antitrust laws in the course of regulation. Thirdly, there may be an outright exception granted in the antitrust law itself where regulation is applicable. These principles have been developed in cases arising before the commission and in subsequent court litigation, and can be most easily illustrated by describing each of these situations.

THE fact that the antitrust laws are not repealed is shown by extensive litigation concerning a hydroelectric and steam electric power project located in

Pennsylvania on the Susquehanna river then owned and operated by the Pennsylvania Water & Power Company, or Penn Water. The dam and plant had been built in the early years of the century, and supplied power to several Pennsylvania utilities, and also to the Consolidated Gas, Electric Light & Power Company<sup>7</sup> serving Baltimore. Penn Water and Consolidated came under the common domination of a group of stockholders headed by one John E. Aldred, an important figure in the utility field in those days. Under this control the two companies evolved an agreement in 1931 by which they divided the power generated by their common subsidiary, Safe Harbor Water Power Corporation, which had another hydro project about ten miles up the river, and by which they agreed that Consolidated would receive all the power available from Penn Water, on a cost-of-service basis, except that amount of power sold by Penn Water to its Pennsylvania utility customers.

The contract also provided that Penn Water should obtain the approval of Consolidated before entering into any contract for the sale of power and before

### FPC Should Consider National Policy

"ON appeal the barge operators argued that Texas Eastern would have destructive competitive power in the petroleum field because of the financial advantages it derived from the natural gas business. The court set aside and remanded our order. It said that we should have considered whether the transfer of Little Inch from gas transportation to petroleum transportation would have a destructive effect on the business of the barge operators, so as to constitute a violation of the national policy against monopoly expressed in the antitrust laws. It added that 'although the commission has no power to enjoin conduct as illegal under the Sherman Act or even to declare such illegality, it certainly has the right to consider a congressional expression of fundamental national policy as bearing upon the question of whether a particular certificate is required by the public convenience and necessity.'"

## PUBLIC UTILITIES FORTNIGHTLY

making any investment in equipment in excess of a certain amount.

**PENN WATER's** and Safe Harbor's plants in Pennsylvania and Consolidated's system in Maryland were all interconnected with high-voltage transmission lines. Under the contract the plants of the two hydro companies and Consolidated's steam-generating plants in Baltimore were operated in such a way as to obtain the maximum advantage out of the resources of the three companies. This called for skillful engineering because the water in the Susquehanna river varies from a very high flow in the spring to a very low flow in the fall. It worked out that the hydro plants, except at times of excess water, would be operated only at times of peak load to avoid using the most expensive steam-generating units in Baltimore and would shut down and store water during the nights and week ends. Energy would thus be generated at the most economical sources and would move over the system in Maryland and Pennsylvania according to need, with the maximum saving in costs.

Time passed and the old order gave way to the new, in the utility field. The Federal Power Act was enacted in 1935. The Aldred control disappeared.<sup>8</sup> Complaints were made by customers of Consolidated that Penn Water and Safe Harbor were charging too much for their power and lengthy hearings were held before the FPC on the rates of the two companies.

On the basis of many considerations, the commission reduced Safe Harbor's rates<sup>9</sup> and Penn Water's rates.<sup>10</sup> The commission was impressed, however, with the value of the co-ordinated operation of the three companies and specifically left

that arrangement in effect,<sup>11</sup> but carefully stated that "If there are questions as to the legality of the foundation contracts—the validity of our order is not dependent upon the decision of those questions."<sup>12</sup>

### Antitrust Suits Filed

**BEFORE** the commission's Penn Water rate case got to the reviewing court, Penn Water commenced an action against Consolidated, seeking judgment that the basic agreement was in violation of the antitrust laws. Eventually the court of appeals for the fourth circuit held that the agreement violated § 1 of the Sherman Act, as it resulted in price fixing, and § 14 of the Clayton Act in that it prevented Penn Water purchasing power from Consolidated's competitors.<sup>13</sup> The court emphasized that "the grant of monopolistic privileges, subject to regulation by governmental body, does not carry an exemption, unless one be expressly granted, from the antitrust laws, or deprive the courts of jurisdiction to enforce them." The court was also of the opinion that no primary jurisdiction resided in the Federal Power Commission to decide whether the basic agreement violated the Sherman Act. It did not think that a provision in the Power Act prohibiting combinations in restraint of trade<sup>14</sup> shifted the forum from the courts to the commission. The court admitted that the arrangements between the parties might have desirable features, and thought that the interconnection of facilities and the interchange of electrical energy could be continued by some method that would not offend the antitrust laws.

**PENN WATER** brought a second antitrust suit in which it requested that the 1931





### Interesting Court Opinions

"**E**VENTUALLY the court of appeals for the fourth circuit held that the agreement [between Penn Water and Consolidated] violated § 1 of the Sherman Act, as it resulted in price fixing, and § 14 of the Clayton Act in that it prevented Penn Water purchasing power from Consolidated's competitors. The court emphasized that 'the grant of monopolistic privileges, subject to regulation by governmental body, does not carry an exemption, unless one be expressly granted, from the antitrust laws, or deprive the courts of jurisdiction to enforce them.' The court was also of the opinion that no primary jurisdiction resided in the Federal Power Commission to decide whether the basic agreement violated the Sherman Act. It did not think that a provision in the Power Act prohibiting combinations in restraint of trade shifted the forum from the courts to the commission."

agreement by which Safe Harbor sold its power also be declared illegal.<sup>18</sup> This agreement provided for the sale of power by Safe Harbor to Penn Water and Consolidated and contained restraints on the installation of equipment and the sale of power similar to those contained in the contract between Penn Water and Consolidated. It also provided for co-operative effort to make the maximum use of the electric facilities so as to give the greatest benefit to the public.

In this proceeding the Federal Power Commission attempted to intervene before the court of appeals for the fourth circuit.

It contended that it had prescribed these contractual provisions in reducing Safe Harbor's rates; that it was empowered to encourage interconnection and co-ordination of facilities under § 202; that the court should not nullify a contract prescribed as a rate schedule; and that the antitrust laws were superseded to this extent. The court differed with the commission, and, for similar reasons, declared this contract illegal, too.

**W**HEN the commission's Penn Water rate case reached the Supreme Court the antitrust problem was argued at

length.<sup>16</sup> The Supreme Court did not find it necessary to pass on the question of whether the commission had power to rely on or to compel parties to carry out private contracts which would otherwise be illegal. It pointed out that the commission order did not compel Penn Water to yield to the control of Consolidated. It said the duty of Penn Water to continue its co-ordinated operations sprang from the commission's authority, not from private contracts, and the commission had expressly made its rate order not dependent on the validity of the private contracts. If Penn Water did not like the arrangement prescribed by the commission it could file a rate change, and this was the proper procedure rather than trying to utilize a violation of the Sherman Act to nullify a rate reduction order.<sup>17</sup>

This litigation thus showed clearly enough that the antitrust laws were not repealed by a regulatory statute but permitted a desirable regulatory scheme providing for co-operation and co-ordination to be effective. It left some doubt about the effect of commission approval of an illegal contract and left doubt as to how far the commission might go in prescribing arrangements that would violate the antitrust laws.

#### Antitrust Laws Influence Decisions

**T**HE next case I am going to discuss illustrates the point that, in reaching our decisions, we must give effect to the antitrust laws. This case arose out of an application by Texas Eastern Transmission Corporation to abandon, for the purpose of transporting gas, that part of the Little Inch pipeline which extends from Baytown, Texas, to Moundville, West Vir-

ginia. It may be recalled that the Big Inch and the Little Inch were used to transport petroleum products during World War II and were sold after the war to Texas Eastern.<sup>18</sup> This company now proposed to use again the greater part of the Little Inch for petroleum products and to build other facilities to make up the loss of gas transportation capacity.

Certain oil barge operators intervened because they objected to the competition that Texas Eastern would create in the transportation of petroleum products. After consideration of these contentions we granted permission to Texas Eastern to abandon Little Inch for natural gas transportation.<sup>19</sup> We could see no violation of the antitrust laws, and we said that we were not concerned with the encroachment of Texas Eastern's proposed oil operation on the oil operations of the barge operators.

**O**N appeal the barge operators argued that Texas Eastern would have destructive competitive power in the petroleum field because of the financial advantages it derived from the natural gas business. The court set aside and remanded our order.<sup>20</sup> It said that we should have considered whether the transfer of Little Inch from gas transportation to petroleum transportation would have a destructive effect on the business of the barge operators, so as to constitute a violation of the national policy against monopoly expressed in the antitrust laws.

It added that "although the commission has no power to enjoin conduct as illegal under the Sherman Act or even to declare such illegality, it certainly has the right to consider a congressional expression of

## ANTITRUST LAWS AND REGULATED COMPANIES UNDER THE FPC

fundamental national policy as bearing upon the question of whether a particular certificate is required by the public convenience and necessity."<sup>21</sup>

**A**FTER the remand a further hearing was held and we issued another opinion and order granting a certificate of public convenience and necessity authorizing the abandonment.<sup>22</sup> This time we discussed the effects of the abandonment on the barge operators and the national policy against monopoly. We found that the market for petroleum products was expanding greatly, that Little Inch would reach areas not served by the barges, and that there would be little permanent harm to the barge operators. We also concluded that the entrance of Little Inch into the petroleum field would not constitute a violation of the letter or the policy of the antitrust statutes and that in fact it would stimulate competition by providing additional sources of supply and would thus benefit consumers.

After further litigation<sup>23</sup> a settlement was reached by which we ultimately issued a certificate to Texas Eastern, conditioned so as to provide that Little Inch would be operated as a common carrier at reasonable

and nondiscriminatory rates subject to the Interstate Commerce Commission.<sup>24</sup>

### Recent Merger Case

**F**INALLY, I would like to discuss an important recent case involving an exemption in the antitrust statute. This is the merger of Pacific Northwest Pipeline Corporation into El Paso Natural Gas Company. El Paso produces and purchases gas in the Permian basin area of western Texas and eastern New Mexico and in the San Juan basin area of northern New Mexico. It owns and operates pipelines extending from these producing areas to the border of California where approximately 80 per cent of its gas is sold. There has been a constantly growing demand for gas in California, so that El Paso has continually had the problem of acquiring sufficient gas supplies.

Pacific Northwest has in recent years, under our authority, constructed a pipeline system beginning in southern Colorado at the edge of the San Juan basin, and extending north through and over the mountains all the way to the Canadian border. It produces and purchases gas in the San Juan basin, in various fields in the Rocky Mountain area, and also purchases gas

## What Effect Antitrust on Regulation?

**"T**HE question then arises as to what is the effect of the antitrust laws in a regulated field. I shall not try to answer this question generally, but in the field regulated by the Federal Power Commission certain principles seem to have been established. One is that the advent of regulation does not repeal the antitrust laws, but some kind of accommodation is necessary. Secondly, this commission is not empowered to determine whether a company is in violation of the antitrust laws but it must apply the policy of the antitrust laws in the course of regulation. Thirdly, there may be an outright exception granted in the antitrust law itself where regulation is applicable."

## PUBLIC UTILITIES FORTNIGHTLY

from Canada. It is believed that the Rocky Mountain area contains gas reserves that have not yet been discovered. Pacific Northwest's pipeline was built to obtain access to these reserves and Canadian sources of supply. However, Pacific Northwest's market has been limited, and it was operating at a loss in 1957 and 1958. El Paso, much the stronger company financially and in need of gas supplies, acquired a controlling interest in Pacific Northwest's stock. For this purpose it did not need our permission under the Natural Gas Act.

**A**CIVIL antitrust action was filed against both companies by the United States in the federal district court in Utah. The basis was § 7 of the Clayton Act<sup>95</sup> prohibiting the acquisition by one corporation of the stock or assets of another where "the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly." Exempt by the statute, however, are transactions consummated under authority of a number of regulatory agencies including this commission.

Stimulated no doubt by the antitrust suit, El Paso and Pacific Northwest applied to the FPC for permission to merge the two corporations into one, so that El Paso would acquire Pacific Northwest's pipelines and other assets. The district judge in Utah stayed the antitrust actions during the hearing and other proceedings before us.

On the basis of the record and an examiner's decision, the merger seemed to us to be in the public interest and we approved it.<sup>96</sup> The record showed that El Paso would obtain additional supplies of gas; the combined system would have

greater flexibility by which gas from the Rocky Mountain area would be available to El Paso's old system and El Paso could make its gas available to customers in the Rocky Mountain area. A resulting tax loss carry-over from Pacific Northwest would produce tax savings. This we ordered placed in a special reserve to be disposed of for the benefit of ultimate consumers.

### Ruled Out Antitrust Aspects

**O**N the antitrust problem we noted the specific exemption in the Clayton Act with respect to a transaction approved by us. But we did not rely on this alone. In accordance with the barge operators' case, which I have already discussed, we considered the bearing of the policy of the antitrust laws on the public convenience and necessity. We concluded that any lessening of competition was outweighed by the desirable features of the transaction but that any lessening of competition was not substantial.

It seemed clear to the commission that





## ANTITRUST LAWS AND REGULATED COMPANIES UNDER THE FPC

Pacific would not have been a strong competitor in California, while there was other competition for El Paso definitely in prospect. We, thus, did not feel that the antitrust laws were an obstacle to our approval of this merger.

**T**HEREFORE, I think we can conclude, as far as the Federal Power Commission is concerned, that the antitrust laws are applicable, except where there is a specific exemption. Of course, it would be unthinkable that suit would be brought against a natural gas company or an electric utility merely because it is a monopoly, for that is their very nature.

However, we are required, in exercising our jurisdiction, to consider the policy behind the antitrust laws, and we fully intend to do so. Presumably, restraints of trade that are unreasonable from the regulatory standpoint would be in violation of the Sherman Act or the Clayton Act.

There is left, perhaps, some doubt about an arrangement that is desirable from the regulatory viewpoint, but illegal under the antitrust laws. However, I feel confident that the courts or the governmental bodies involved can accommodate themselves to these situations if and when they arise.



### Footnotes

- <sup>1</sup> 15 USC § 1 et seq.
- <sup>2</sup> 15 USC § 12 et seq.
- <sup>3</sup> 16 USC § 791d-825r.
- <sup>4</sup> 15 USC § 717-717W.
- <sup>5</sup> Section 202, 16 USC 824a.
- <sup>6</sup> *Phillips Petroleum Co. v. Wisconsin* (1954) 347 US 672, 3 PUR3d 129.
- <sup>7</sup> *Now Baltimore Gas & Electric Company.*
- <sup>8</sup> *Re Aldred et al.* 2 FPC 247, 35 PUR NS 361.
- <sup>9</sup> *Re Safe Harbor Water Power Corp.* 5 FPC 221, 34 PUR NS 236, affirmed as *Safe Harbor Water Power Corp. v. Federal Power Commission* (USCA 1949) 84 PUR NS 344, 179 F2d 179, certiorari denied 339 US 957.
- <sup>10</sup> *Re Pennsylvania Water & Power Co.* 8 FPC 1, 82 PUR NS 193, affirmed *Pennsylvania Water & Power Co. v. Federal Power Commission* (CA DC 1951) 94 PUR NS 175, 193 F2d 230, affirmed (1952) 343 US 414, 94 PUR NS 1.
- <sup>11</sup> 8 FPC at p. 96; 8 FPC 1193, 1196, 1198.
- <sup>12</sup> *Re Pennsylvania Water & Power Co.*, order on rehearing, 8 FPC 170, 175.
- <sup>13</sup> *Pennsylvania Water & Power Co. v. Consolidated Gas E. L. & Power Co. of Baltimore* (CA 4th) 86 PUR NS 33, 184 F2d 552, 186 F2d 934, certiorari denied 340 US 906.
- <sup>14</sup> Section 10(h), 16 USC § 803(h).
- <sup>15</sup> *Consolidated Gas v. Pennsylvania Water* (CA 4th) 94 PUR NS 161, 194 F2d 89, certiorari denied 343 US 963.
- <sup>16</sup> *Pennsylvania Water Co. v. Federal Power Commission*, 343 US 414, 94 PUR NS 1.
- <sup>17</sup> *Penn Water*, as part of a general settlement of the litigation, was eventually merged into *Pennsylvania Power & Light Company*, a large utility in Pennsylvania. *Re Pennsylvania Water & Power Co.* 14 FPC 706.
- <sup>18</sup> *Re Texas Eastern Transmission Corp.* 6 FPC 148.
- <sup>19</sup> *Re Texas Eastern Transmission Corp.* 14 FPC 38.
- <sup>20</sup> *City of Pittsburgh v. Federal Power Commission* (CA DC) 13 PUR3d 145, 237 F2d 741.
- <sup>21</sup> 237 F2d at p. 754. It may be noted that the commission is given authority to transmit evidence of violation of the antitrust laws to the Attorney General. Section 20(a) of the Natural Gas Act, 15 USC 717S.
- <sup>22</sup> *Re Texas Eastern Transmission Corp.* 17 FPC 843.
- <sup>23</sup> Remand because of omission of the intermediate decision procedure *Chotin Towing Corp. v. Federal Power Commission* (CA DC) 22 PUR3d 179, 250 F2d 394.
- <sup>24</sup> 19 FPC 137, 141, 142.
- <sup>25</sup> 15 USC § 18.
- <sup>26</sup> *Re Pacific Northwest Pipeline Corp.* 22 FPC—, Docket No. G-13018, December 23, 1959.

# Sales Promotion Yardsticks for Electric and Gas Utilities

By WILLIAM T. KELLEY\*

How much should a gas or electric utility spend for advertising, personal selling, publicity? Are there any yardsticks or operating ratios to serve as a guide? To find authoritative answers to these questions asked by sales promotion people in the utility field, the author dug deep into available statistics. He produced an informative article that throws new light on a hitherto neglected subject. Public relations, advertising, and sales promotion executives, as well as top management of utilities, should find this discussion provocative.

## Purpose of the Study

**V**ERY little has been written on the subject of sales promotion in the public utility field. There are a good number of articles on the public relations function, but little about that combination of personal selling and advertising activities known in the public utility field as "sales promotion."<sup>1</sup> Moreover, investigation of extant literature reveals little mate-

rial useful to sales promotion managers in guiding them in appropriating money for the function; i.e., statistical guides or yardsticks as to how much the industry in general is spending for different kinds of functional activities.

Accordingly, it is our major purpose to develop a few simple yardsticks against which public utility management can measure the performance of the individual company. The idea is not to force all sales promotion managers of the industry into a strait jacket of conformity, but to help them to establish "pars for the course."

\*Associate professor of marketing, Wharton School of Finance and Commerce, University of Pennsylvania. For additional personal note, see "Pages with the Editors."



## SALES PROMOTION YARDSTICKS FOR ELECTRIC AND GAS UTILITIES

Deviations from "par" may be perfectly logical in certain situations; but, in others, they may reveal weaknesses that need correcting. Established yardsticks enable the manager to spot such deviations and either explain them as special cases,<sup>3</sup> or adjust policy to bring his concern more into line with established industry practice.

**T**HERE are other objectives of this study. One is to investigate the promotional mix of electric and gas utilities<sup>4</sup> to observe changes over time, set up present pars or standards, and study variations in the mix by size of company and area of the country.

It is postulated that the revelation of changes in the amount and mix of promotional expenditures over time will give

some indication of future tendencies in public utility sales promotion. Only by studying historical relationships can some inkling of the shape of things to come be gained. The author will present the data and let each reader draw his own conclusions as to future developments.

**F**INALLY, it is hoped that this article will lead others to push on further in this neglected area of study. Statistics are very incomplete, as will be developed later in this report. There is a need for the kind of research that will bring to light more adequate data by primary investigation. Only through much work can the kinds of refined relationships sorely needed for adequate management control be worked out in the future.



TABLE I  
SALES PROMOTION EXPENSES\* OF CLASS A AND CLASS B  
PRIVATELY OWNED ELECTRIC UTILITIES  
1937 TO PRESENT

Year	Amount (000 Dollars)	Per Cent of Total Operating Expenses	Per Cent of Operating Revenues
1937	55,082	5.9	2.5
1938	53,678	5.8	2.5
1939	51,386	5.4	2.3
1940	52,426	5.2	2.2
1941	50,426	4.5	1.9
1942	38,406	3.2	1.4
1943	33,898	2.6	1.1
1944	34,552	2.4	1.1
1945	39,035	2.7	1.2
1946	52,975	3.3	1.6
1947	62,505	3.2	1.7
1948	67,630	2.9	1.6
1949	69,937	3.0	1.6
1950	77,696	3.2	1.6
1951	85,785	3.2	1.6
1952	92,014	3.3	1.6
1953	100,465	3.3	1.6
1954	108,101	3.4	1.6
1955	114,847	3.4	1.6
1956	125,280	3.4	1.6
1957	134,268	3.4	1.6

\*Includes demonstration, advertising, and other sales expenses.

Source, Federal Power Commission, *Electric Power Statistics*, Washington, various years.

## PUBLIC UTILITIES FORTNIGHTLY

### Public Utilities Are Monopolies— Why Promote Sales?

EVERY sales promotion manager has had to answer this question many times, asked not only by outsiders, but also by people within his own company. Such questions show an ignorance of the important job done by sales promotion in many different aspects of a utility's business. As Collins comments: "It is often said, mistakenly, that utilities are monopolies. That is true only of operations in the servicing of customers. In every other respect, they are competitive—in financing, the prices they pay for equipment and supplies, and in the hiring of employees. Even in operations there are competitive conditions, as between gas and electricity, and the automobile *versus* the transit services."<sup>4</sup>

Specifically, utilities spend money and effort on sales promotion for the following reasons:<sup>5</sup>

1. *General Competition for the Consumer's Dollar.* The gas and electric industry must compete with every other industry for the consumer's dollar.

Without constant promotion, the consumer may decide to cut down on the usage of gas and electricity and may fail to purchase load-building appliances in favor of spending his hard-earned dollars on a car, trip to Europe, or something else that is successfully promoted.

2. *Assure Continued Growth.* Since rates are regulated by the government, the only feasible way to make more profits is through increased sales. As Stafford points out,<sup>6</sup> average sales per residential customer were only 677 kilowatt-hours in 1935. By 1956, the average consumption had risen to 2,980 kilowatt-hours per customer. Forecast usage per customer by 1975 is a fantastic 10,000 kilowatt-hours. But such growth does not "just happen." In the past, it has come from pioneering new load-building appliances, stimulating better lighting in the home, etc. The industry must continue such pioneering promotions during the next fifteen years if this great potential is to be realized. As in the past, sales promotion has an important rôle to play here.



TABLE II  
SALES PROMOTION EXPENSES OF GAS UTILITIES  
(EXCLUDING PIPELINE COMPANIES)  
1947 TO PRESENT

Year	Amount (Million Dollars)	Per Cent of Total Operating Expenses	Per Cent of Total Operating Revenues
1947	22.3	2.2	1.6
1948	26.3	2.2	1.7
1949	32.0	2.6	1.9
1950	34.5	2.4	1.8
1951	42.9	2.7	1.9
1952	45.9	2.5	1.9
1953	55.1	2.7	2.0
1954	56.1	2.9	1.8
1955	57.6	2.3	1.7
1956	66.2	2.4	1.7
1957	84.5	2.8	1.9

Source, American Gas Association, "Historical Statistics of the Gas Industry," New York, 1956; 1956 and 1957 Supplements; *Ibid.* Gas Facts, 1957.



## SALES PROMOTION YARDSTICKS FOR ELECTRIC AND GAS UTILITIES

**3. *Secure Load Selectivity.*** It is an axiom of public utility economics that a company should strive to build a consistently high load factor rather than higher peak loads. Cleverly planned sales promotion can help achieve this important goal. For example, if the electric utilities in our northern states were to get behind the promotion of electric blankets vigorously, they might build very desirable off-peak consumption at night when the load factor is naturally low. Again, the promotion of gas air conditioning could help offset the summer low for gas companies.

**4. *Promote the Area Served by the Utility.*** Another way for a utility to grow is to aid new businesses to get started, and to attract new industry into the area. Again, the competition between territories

for new business and, therefore, for population, is keen, and each utility must spend sufficient on area promotion to get its share.<sup>7</sup>

**5. *Lower the Cost of Money.*** Utilities can expand services only by substantial increase of capital investment. The never-ending resort to the money markets can be facilitated greatly by institutional promotion. Making the company known to security holders and investors is vital if financing costs are to be kept reasonable. The "blue-chip" securities tend to be of companies well-known to the public.

**6. *Public Relations Aspects.*** Since it is in a quasi-monopoly position, a utility is in a particularly sensitive position when it comes to public opinion. Certainly,

## Reasons Why Utilities Spend Money for Sales Promotion:

### **One. General Competition for Consumer's Dollar**

Necessities and luxuries vie with utilities for a share of the consumer's expenditures.

### **Two. To Assure Continued Growth**

In a regulated business, more profits can only come through increased sales.

### **Three. To Secure Load Selectivity**

Leveling of peak loads and obtaining a consistently high load factor can be obtained through selective promotion of gas and electric applications.

### **Four. To Promote Area Served by Utility**

If a utility helps the business of its area more business for the utility will result.

### **Five. To Lower the Cost of Financing**

Institutional promotion can make the company better known by investors and security holders. This helps to keep financing costs for expansion reasonable.

### **Six. To Mold a Good Company Image**

A favorably disposed public helps in rate cases, in opposing adverse legislation, in selling stock.

### **Seven. To Make Technical Services Better**

Advice and assistance on applications of gas and electricity not only help build good will for the company, but they also build more profitable load.

# PUBLIC UTILITIES FORTNIGHTLY

TABLE III  
SALES PROMOTION AND ADVERTISING EXPENDITURES  
OF GAS-DISTRIBUTING COMPANIES  
1947-58

Year	Total Operating Revenues (000 \$)	Total Operating Expenses (000 \$)	Sales Promotion Expenses (000 \$)	Advertising Expenses (000 \$)	Per Cent of Revenue		Per Cent of Total Expenses	
					Sales Promo- tion	Adver- tising	Promo- tion	Adver- tising
1947	523,707	355,537	8,566	2,436	1.64	0.47	2.41	0.69
1948	593,214	425,283	9,780	2,611	1.65	0.44	2.30	0.61
1949	629,075	437,952	11,681	2,743	1.86	0.44	2.67	0.63
1950	728,678	496,187	13,057	3,367	1.79	0.46	2.63	0.68
1951	833,685	552,015	15,303	3,011	1.84	0.47	2.77	0.71
1952	911,887	609,302	16,756	4,311	1.84	0.47	2.75	0.71
1953	1,000,341	686,527	17,620	4,352	1.76	0.44	2.57	0.63
1954	1,116,975	755,350	21,231	5,406	1.90	0.48	2.81	0.72
1955	1,253,160	845,199	23,876	6,077	1.91	0.48	2.82	0.72
1956	1,390,496	923,347	27,457	7,134	1.97	0.51	2.97	0.77
1957	1,492,164	1,014,557	29,811	7,881	2.00	0.53	2.94	0.78
1958	1,655,503	1,127,606	33,285	8,174	2.01	0.49	2.95	0.72

Source: Survey by author of 16 large gas-distributing companies; 13 of the 16 contacted made full returns (81.25 per cent). Unfortunately, the sample was not adequate to allow tabulation by geographic areas or company size as was done for electric utilities where FPC statistics were complete for virtually all electric companies in the United States.



part of its promotional efforts must be devoted to showing the company in a favorable light as a good neighbor, an asset to the community, and to dispelling malimpressions about the electric and gas industry.<sup>8</sup>

Leonard Omerod, Public Utilities Advertising Association, many years ago

stated several good reasons why a utility should employ institutional advertising:

In the first place, it is easier and more economical to deal with a favorably disposed public than with one which, through lack of understanding, is inclined to be captious or critical. Such



TABLE IV  
SALES PROMOTION EXPENSES AS A PER CENT OF TOTAL  
OPERATING AND MAINTENANCE EXPENSES  
GAS UTILITIES

Year	All Natural Gas Companies	Straight Trans- mission	Straight Distrib- uting	Combina- tion W/Nat- ural Gas	All Manu- factured Gas Co.'s	Straight Manu- factured	Combination W/Manu- factured	Mixed Gas Com- panies
1947	1.9	0.4	1.7	3.1	2.0	2.4	1.7	3.2
1948	1.9	0.4	2.7	2.4	2.0	2.5	1.6	3.1
1949	2.0	0.4	2.9	2.6	2.6	3.2	2.1	3.2
1950	1.8	9.3	3.2	2.7	2.9	3.7	2.0	—
1951	1.7	0.2	3.1	3.2	4.2	4.8	2.1	—
1952	1.7	0.3	2.9	2.7	3.5	3.7	2.5	—
1953	1.7	0.1	3.2	2.6	4.4	4.3	4.8	—
1954	1.5	0.1	3.0	2.8	4.0	4.2	—	—
1955	1.4	0.1	—	2.0	3.9	—	—	—
1956	1.6	0.2	3.3	2.2	3.9	—	—	—
1957	1.8	0.1	4.0	2.3	—	—	—	—

Source, American Gas Association, "Historical Statistics of the Gas Industry," New York, 1956, Tables 203 through 210. 1955-56 figures: *Ibid.* 1957 and 1958 Supplements calculated from Table 195.

## SALES PROMOTION YARDSTICKS FOR ELECTRIC AND GAS UTILITIES

a lack of understanding means friction, and friction is always expensive, for it generates heat and wears out the machinery—human or otherwise. In the second place, these public utility corporations are frequently the subject of legislative action or commission regulation, the legislators and commissioners acting as representatives of the people. A wide understanding by the public is the best safeguard against any ill-considered action that might very easily re-

sult in injury to the service and severe setback to the utility. In such an instance, the public would be the principal sufferer, as it always is when any of these services is curtailed. Still a third reason for a proper program of education is the constant necessity for most public utilities to add to their capital investment. There is only one place such new capital can be obtained and that is from the investing public which is, after all, the gas-using public, the telephone-



### GEOGRAPHICAL CLASSIFICATION EMPLOYED BY FEDERAL POWER COMMISSION AND USED IN TABLE V

New England	Iowa	Mississippi
Maine	Missouri	West South Central
New Hampshire	North Dakota	Arkansas
Vermont	South Dakota	Louisiana
Massachusetts	Nebraska (none)	Oklahoma
Rhode Island	Kansas	Texas
Connecticut	South Atlantic	Mountain
Middle Atlantic	Delaware	Montana
New York	Maryland and D. C.	Idaho
New Jersey	Virginia	Wyoming
Pennsylvania	West Virginia	Colorado
East North Central	North Carolina	New Mexico
Ohio	South Carolina	Arizona
Indiana	Georgia	Utah
Illinois	Florida	Nevada
Michigan	East South Central	Pacific
Wisconsin	Kentucky	Washington
West North Central	Tennessee	Oregon
Minnesota	Alabama	California

TABLE V

### SALES PROMOTION AND ADVERTISING EXPENDITURES OF CLASS A AND B ELECTRIC COMPANIES BY GEOGRAPHIC AREA OF THE UNITED STATES, 1957

Area	Total Operating Revenues	Total Operating Expenses	Sales Promotion Expenses	Advertising Expenses	Sales Promotion	Per Cent of Revenue Advertising	Per Cent of Total Sales Expenses
	(Million \$)	(Million \$)	(Million \$)	(Million \$)	motion		Adver-
New England	663.2	389.7	8.5	1.7	1.3	0.26	2.2
Middle Atlantic	1,845.9	937.0	27.2	4.8	1.5	0.26	2.9
East North Central	2,076.3	1,002.3	31.5	7.8	1.5	0.38	3.2
West North Central	598.1	266.3	11.8	3.4	2.0	0.57	4.4
South Atlantic	1,127.7	529.1	18.2	3.4	1.6	0.30	3.4
East South Central	283.9	131.5	4.7	0.9	1.6	0.34	3.6
West South Central	697.0	263.6	16.3	4.5	2.4	0.65	6.4
Mountain	246.6	106.0	4.7	1.3	1.9	0.53	4.4
Pacific	773.5	312.4	10.7	3.1	1.4	0.40	3.4
United States	8,312.2	3,937.2	134.3	30.9	1.6	0.37	3.4

Source: Tabulated from Federal Power Commission. "Statistic of Electric Utilities in the United States 1957," privately owned, Washington, 1958.

## PUBLIC UTILITIES FORTNIGHTLY



### Differences Made by Geography

"It is interesting to note how much difference geographical location seems to make in the per cent of revenues and operating expenses devoted to promotion. As a per cent of operating revenue, sales promotion expenditures range from a low of 1.3 per cent in New England to 2.4 per cent in the West South Central, or a difference of 85 per cent. The difference for advertising is even greater: 0.26 per cent for New England and 0.65 per cent for the West South Central area, a difference of 150 per cent. In general, the West North Central, West South Central, and Mountain utilities are above the national average. New England and the Pacific companies are below average, and the other areas are about on the line, with the exception of the North Atlantic area, whose advertising ratio was well below the national average (30 per cent below) and the Pacific area, which was somewhat above average."

using public, the streetcar-riding public, etc. If the public has confidence in the management of the utilities it will be willing to invest in their securities. Lacking that confidence, such industries will find it difficult, if not impossible, to obtain new capital at a reasonable rate.<sup>9</sup>

**7. Technical Service Aspects.** The personal selling part of the promotional mix has a special rôle to play in furnishing expert advice and assistance to a wide

variety of customers on a multiplicity of applications. The engineer-salesman can build both good will for his company and load-building business from his customer.<sup>10</sup> As is pointed out below, the greater part of the sales promotion dollar is spent in this kind of promotion.

Most electric and gas companies divide technical service selling into three parts:

#### (a) Residential sales.

In the case of new homes, architects and builders are contacted to sell them



## SALES PROMOTION YARDSTICKS FOR ELECTRIC AND GAS UTILITIES

on such propositions as better wiring and more adequate equipment for the home (advantages of gas heat, central air conditioning, electric heating, etc.). On the old home market, rewiring and load-building appliances are sold, although many utilities are getting out of appliance merchandising in face of severe discount house competition.

### (b) Commercial sales.

Sales representatives contact wholesale and retail establishments, shopping areas, and large commercial customers. They push comprehensive lighting installations, gas or electric kitchen installation, air conditioning, etc.

### (c) Industrial sales.

Industrial salesmen must be familiar with the power and heating problems of literally scores of industries. Their major task is to advise on electric or gas application of power to machinery and heat-treating methods. They also have a splendid opportunity to build factory loads by selling more adequate installation of lighting, heating, and air conditioning, as well.

Most sales promotion departments are organized along the lines indicated above. The vice president in charge of sales or the general manager heads up the department. Under him is a manager of residential sales, manager of commercial sales, and manager of industrial sales, and sales promotion manager. In the case of utilities serving a big rural area, there may be a manager of farm sales. The advertising department may be in the sales department, but is sometimes found under the vice president, public relations.

### Changes in Expenditures for Sales Promotion Overtime

TABLE I (page 383) shows annual expenditures on sales promotion by the electric utility industry from 1937 through 1957, and expresses each expenditure as a per cent of total operating expenses and of total operating revenues.<sup>11</sup>

It will be noted that sales promotion expenditures increased from \$55 million in 1937 to more than \$134 million in 1957, a growth of about 143 per cent. However, the electric utility industry grew even

TABLE VI

SALES PROMOTION AND ADVERTISING EXPENDITURES  
OF CLASS A AND B ELECTRIC COMPANIES BY SIZE OF COMPANY  
(AS MEASURED BY OPERATING REVENUES) 1957

Size Classification	Total Operating Revenues (Million \$)	Total Operating Expenses (Million \$)	Sales Promotion Expenses (Million \$)	Adver- tising Ex- penses (Mil- lion \$)	Per Cent of Revenue Sales Promo- tion	Per Cent of Revenue Adver- tising	Per Cent of Total Expenses Sales Promo- tion	Per Cent of Total Expenses Adver- tising
\$250,000 —\$ 1 Million	21.9	14.6	0.18	0.03	0.84	0.15	1.3	0.22
1 Million— 10 Million	323.5	189.5	4.42	1.22	1.37	0.38	2.3	0.64
10 Million— 50 Million	2,358.1	1,096.8	43.03	10.55	1.82	0.45	3.9	0.96
50 Million— 100 Million	1,692.9	780.1	27.76	6.56	1.64	0.39	3.6	0.84
100 Million and over	3,668.9	1,745.2	53.25	12.10	1.45	0.33	3.0	0.69
Unclassified	246.8	111.7	5.70	0.40	—	—	—	—
United States	8,312.2	3,937.9	134.30	30.90	1.62	0.37	3.4	0.78

Source: Tabulated from Federal Power Commission, "Statistics of Electric Utilities in the United States 1957," privately owned, Washington, 1958.

# PUBLIC UTILITIES FORTNIGHTLY

faster, as is shown by the per cent of revenue and expense columns. Per cent of operating revenues, for example, fell from 2.5 per cent to a low of 1.1 per cent during World War II. They rose to 1.7 per cent in 1947, then settled down to a 1.6 per cent relationship that has persisted to the present. Between 1937 and 1957, sales promotion expenditures as a per cent of operating revenues declined 36 per cent (42 per cent in case of operating expenses). It appears that the industry has been supporting increased operating revenues on a much proportionally smaller sales promotion expenditure during the postwar years, compared with the pre-World War II period.

**T**URNING now to the gas side of the picture, Table II (page 384) demonstrates that gas utilities have been somewhat more promotionally minded than electric companies in the postwar period. The amount spent for sales promotion rose from \$22 million in 1947 to \$84 million in 1957, an increase of 280 per cent. But, more important, expenditures more than kept up with the increased sales volume during the period, as promotional ex-

penses to total operating revenues trended ever higher between 1947 and 1953, slumped a bit in 1955 and 1956, and returned to 1.9 per cent in 1957. Comparing the electric and gas industries, the former spends about twice what the latter does on sales promotion. The gas industry spends a somewhat greater percentage of revenue on promotion than does the electric industry, but a considerably smaller percentage of operating expenses.

In Table III (page 386) are shown the results of a survey, conducted by the author, of 16 large gas-distributing companies. Returns were obtained from 13 companies in this sample, and afforded information on the promotional "mix," the proportion of the sales dollar spent on advertising and other promotional activities. It will be observed that the gas utilities have tended to spend about \$3 on other forms of selling (personal selling and demonstration mainly) for every dollar spent on advertising. From 1947 on there has been a gradually rising trend for expenditures on sales promotion; they rose from 1.64 per cent of total revenue in 1947 to around 2 per cent in 1956-58. The rise in advertising expenditures was less



TABLE VII  
RELATIONSHIP OF ADVERTISING AND TOTAL SALES  
PROMOTION EXPENDITURES BY AREAS OF THE  
COUNTRY, 1957—ELECTRIC UTILITIES

Area	Sales Promotion Expense	Advertising Expense	Advertising As Per Cent of Sales Promotion
New England	8.50	1.69	19.9
Middle Atlantic	27.23	4.79	17.6
East North Central	31.56	7.83	24.8
West North Central	11.80	3.35	28.4
South Atlantic	18.22	3.44	18.9
East South Central	4.74	0.97	20.4
West South Central	16.80	4.46	26.5
Mountain	4.69	1.31	27.9
Pacific	10.70	3.10	29.0
United States	134.30	30.90	23.0

Source: Derived from Table IV.

## SALES PROMOTION YARDSTICKS FOR ELECTRIC AND GAS UTILITIES

marked; they went from about 0.44 per cent in the late 1940's to around .5 per cent of revenues in the late 1950's.

Table IV (page 386) carries the analysis of the gas industry still further. It illustrates that natural gas companies tend to spend a smaller percentage of operating expenses on sales promotion than do manufactured gas companies, and that gas transmission companies, naturally, spend very much less proportionally than do distributing companies.

### Geographical Differences in Sales Promotion Expenditures

**A**TABULATION is made of total operating revenues, total operating expenses, sales promotion expenses, and advertising expenses by major areas of the United States for the year 1957. Table V (page 387) presents these data, along with ratios between total operating revenue and sales promotion and advertising, and operating expenses and sales promotion and advertising expenditures. The area divisions are those employed by the Federal Power Commission. A similar study was not made for gas since comparable data are lacking.

It is interesting to note how much dif-

ference geographical location seems to make in the per cent of revenues and operating expenses devoted to promotion. As a per cent of operating revenue, sales promotion expenditures range from a low of 1.3 per cent in New England to 2.4 per cent in the West South Central, or a difference of 85 per cent. The difference for advertising is even greater: 0.26 per cent for New England and 0.65 per cent for the West South Central area, a difference of 150 per cent. In general, the West North Central, West South Central, and Mountain utilities are above the national average. New England and the Pacific companies are below average, and the other areas are about on the line, with the exception of the North Atlantic area, whose advertising ratio was well below the national average (30 per cent below) and the Pacific area, which was somewhat above average.

### Difference in Sales Promotion Expenditures by Company Size

**I**F geographical location makes some difference in sales promotion expenditures, size makes an even more dramatic difference, as shown by Table VI (page 389).



TABLE VIII  
RELATIONSHIP OF ADVERTISING AND TOTAL SALES  
PROMOTION EXPENDITURES BY SIZE OF  
COMPANY, 1957—ELECTRIC UTILITIES

Size Category	Sales Promotion Expense (Million \$)	Advertising Expense (Million \$)	Advertising As Per Cent of Sales Promotion
\$250,000 — \$ 1 Million	0.18	.032	17.4
1 Million— 10 Million	4.42	1.223	27.7
10 Million— 50 Million	43.03	10.550	24.5
50 Million— 100 Million	27.76	6.558	23.6
100 Million and over	53.25	12.100	22.7

Source, derived from Table V.

## PUBLIC UTILITIES FORTNIGHTLY

The same captions appear on the horizontal axis as for Table V. The vertical axis breaks the companies down by size of operating revenues. The size classifications were chosen to give five categories: very small (\$250,000-\$1 million); small (\$1 million-\$10 million); medium size (\$10 million-\$50 million); large (\$50 million-\$100 million); and very large (\$100 million or more revenues). Again, because of scarcity of data, a similar study could not be done for gas.

Looking at the per cent of revenue columns for sales promotion and advertising, it is worth noting that the medium-size utility seems to devote the largest percentage to both sales promotion and advertising. Then, the figures taper down both sides of medium size, until the very large category is next to the smallest, followed by the very small class.

**A**GAIN, the range of difference is great. The typical medium-size company spent 116 per cent more for sales promotion, 200 per cent more for advertising than did the typical very small company. Indeed, the medium-size concern spent 25 per cent more for sales promotion and 30

per cent more for advertising than did the very large company. One may speculate on the reason for this clustering about the medium-size category: The small utility is probably not in a position financially to devote much to promotion. The \$100 million giant, on the other hand, may feel that it already has a good market and does not need to be promotionally aggressive. The medium-range companies have adequate funds and somewhere to go—they want to secure better revenue and develop their respective areas aggressively. Hence the greater proportion of revenues and expenses spent on selling and advertising.

### Differences in Promotional Mix by Area and Size of Utility

**T**ABLE VII (page 390) gives the relationship between sales promotion and advertising expenditures by major areas of the country. It will be observed that advertising is a less important part of the promotional mix in New England, the Middle Atlantic, and South Atlantic areas than elsewhere. Advertising is well above average in the companies of the West North Central, West South Central, Mountain, and Pacific areas. In the latter

## How Advertising Money Is Spent

**"T**ABLE IX reveals that a bit less than one-third of the average advertising appropriation was spent on publication advertising. Of this, 85.6 per cent for electric, 86.7 per cent for combination, and 91.2 per cent for gas companies was spent in local newspapers, so that newspapers were the only important publication medium employed. The next most important medium was television, with gas companies using it twice as much as electric companies. In number three spot was radio, followed by outdoor, direct mail, and a host of minor expenditures. The typical company contributed around 6 per cent of its total appropriation to association advertising."



## SALES PROMOTION YARDSTICKS FOR ELECTRIC AND GAS UTILITIES

three regions, relatively more reliance is put on advertising and less on personal selling than in the first three areas. Almost twice as much proportionately is spent on advertising by the typical Pacific coast utility than by its counterpart in the Middle Atlantic region. For the whole nation, about 23 cents of every sales promotion dollar is devoted to the advertising function. Thus, in the sales promotion mix generally, public utility advertising plays a relatively minor part.

When the same relationship is calculated for the different size categories (Table VIII, page 391), it is seen that the small company has the largest ratio, 27.7 per cent, followed by medium, large, very large, and, finally, very small. Apparently, as we go up the size scale from small, we find less reliance placed on advertising and more on other sales promotion devices, until we reach the ultimate in the case of the very small companies which, of course, do very little advertising.

### Pattern of Advertising Expenditures

**A**FTER evaluating how much is spent on advertising and how it varies by geography and size, the next question to ask is, "How is it spent?"

Unfortunately, data on this question are all but nonexistent. The latest figures available are found in a study done in 1954 by the Public Utilities Advertising Association in which questionnaires from 160 companies were tabulated. Since the study was well done and covered a good cross section of gas and electric companies, some of the results are reproduced in Table IX (page 394).

Table IX reveals that a bit less than one-third of the average advertising appropriation was spent on publication ad-

vertising. Of this, 85.6 per cent for electric, 86.7 per cent for combination, and 91.2 per cent for gas companies was spent in local newspapers, so that newspapers were the only important publication medium employed. The next most important medium was television, with gas companies using it twice as much as electric companies. In number three spot was radio, followed by outdoor, direct mail, and a host of minor expenditures. The typical company contributed around 6 per cent of its total appropriation to association advertising.

In passing, it may be noted that three items, employee house organs, stockholders' annual reports, and market surveys should not have been included in the tabulation. The first two belong on the public relations budget, and the third should be charged to market research expenses.

**T**HE same survey uncovered interesting facts on how the average utility distributes its advertising expenditures by purpose of the effort. The all-electric utility distributed its appropriation as follows: institutional 33 per cent; promotional 57 per cent; appliance 10 per cent. The combination utility split it as follows: institutional 46 per cent; promotional 42 per cent; appliance 12 per cent. The straight gas utility split was: institutional 18 per cent; promotional 58 per cent; appliance 24 per cent.

Thus, the combination companies surveyed were heaviest on institutional advertising and lightest on promotional. The gas companies were heaviest on appliance advertising and lightest on institutional. Electric companies were light on appliance advertising.<sup>12</sup>

## PUBLIC UTILITIES FORTNIGHTLY

### Conclusions

**A**LTHOUGH at first glance there would seem to be little justification for expenditures on sales promotion since public utilities are legal monopolies, on deeper analysis we find some very good reasons why utilities should promote their sales. In answering the question, how much should a gas or electric company spend on sales promotion in total and by various categories, one must develop yardsticks or standard ratios for the industry. The yardsticks employed in this study are the proportion that sales promotion expense categories bear to total operating revenues, and to total operating expenses.

It was found that, in the electric field, sales promotion expenditures as a per cent of operating revenues have tended to fall somewhat in the past twenty years. How-

ever, the gas side of the industry has been much more promotionally minded, in the past decade especially, since promotional expenditures more than kept up with growth of operating revenues.

Advertising plays a relatively minor rôle in the promotional mix: Both gas and electric companies tend to spend about \$3 for other types of promotion (mainly personal selling and demonstration) for every dollar spent on advertising.

Differences in level and pattern of sales promotion expenditures by electric utilities were found when analysis was made by geographical location and by size of company.

**A**NALYSIS of how utilities spend their advertising appropriations revealed that newspapers were the most important single medium, followed by television, then



TABLE IX

### ADVERTISING EXPENDITURES BY TYPE OF UTILITY—1954

Medium or Item	Electric Utilities	Combination Utilities	Gas Utilities
Newspaper in Service Area	27.3	27.5	28.5
Other Publications in Service Area	2.5	2.6	2.6
Newspapers, National Circulation	0.9	0.4	0.2
Other Publications, National Circulation	1.3	1.2	0.0
Production Cost, Publication Advertising	4.7	5.9	4.5
Radio	5.8	4.9	4.4
Television	6.9	5.6	11.6
Outdoor and Poster	3.7	5.3	6.7
Direct Mail	3.1	2.3	3.1
Window and Display	3.2	2.0	3.5
Exhibits and Fairs	2.2	1.8	2.9
Motion Pictures	0.7	0.7	0.4
Miscellaneous Catalogues	2.3	1.3	2.1
Dealer Helps	1.2	0.8	4.3
Employee House Organ	4.4	4.4	3.3
Bill Inserts	2.9	4.7	1.6
Stockholders Annual Reports	3.7	4.9	1.8
Salaries	13.5	13.3	9.5
Stationery Supplies	2.2	2.5	1.4
Association Advertising	5.7	6.6	6.0
Agency Fees	1.1	0.7	1.1
Surveys	0.7	0.6	0.6
	100.0%	100.0%	100.0%

Source, Public Utilities Advertising Association, "1954 Analysis of Utility Advertising and Public Relations Expenditures" (1955) pp. 12-17.

## SALES PROMOTION YARDSTICKS FOR ELECTRIC AND GAS UTILITIES

by a wide variety of other media, none of which accounted for more than a minor

proportion of total advertising expenditures.



### Footnotes

<sup>1</sup> It may be well at the outset to distinguish between these terms. "Personal selling," of course, is the solicitation of a prospective buyer by a salesman on a face-to-face basis. "Advertising" is non-personal selling to a group, and is openly sponsored and paid for by the advertiser. "Sales promotion" is the co-ordination of all seller-initiated sales activities. "Public relations," an activity that will not be treated by this article, is the dissemination of ideas about an institution or, indirectly, a product or service, by publicity that is unpaid for and not openly sponsored. It also involves guiding management to behave in such a manner as to earn the good will of different segments of the public: consumer, stockholders, suppliers, government personnel, etc.

<sup>2</sup> For example, an electric utility may be well above the average for its class and location in per cent of revenues spent on advertising. The yardstick alerts the manager to this situation. It is then up to him to (a) explain it satisfactorily, or (b) change his policy. He may find, on investigation, that he used the money to tie in with an especially aggressive area development program, or to combat competition from a local gas company. On the other hand, it may indicate that his advertising agency is wasting much of the money.

<sup>3</sup> The promotional mix of a company or industry is the proportion of the total sales promotion appropriation spent on personal selling, advertising, and other types of selling. The sales promotion manager tries to allocate the total to the various categories so as to maximize return; i.e., to reach but not exceed the various optima in the mix or combination. For example, at any given combination of expenditure, he is always faced with the question: "Now, if I spent more for advertising and less for personal selling, would my company get more sales?" or "Should more of my advertising appropriation go into outdoor advertising and less into local newspapers?" Scores of such questions may be

asked. In the absence of refined input-output data for the sales promotion area, definitive answers are never possible. But, industry statistics reflect the cumulative wisdom of the manager's colleagues, and are the most reliable indicators thus far developed.

<sup>4</sup> "Telling Teachers about the Utilities," by James H. Collins, *PUBLIC UTILITIES FORTNIGHTLY*, Vol. 55, March 17, 1955, p. 302.

<sup>5</sup> Adapted from: "Why Utilities Must Advertise," by James M. Stafford, Jr., *PUBLIC UTILITIES FORTNIGHTLY*, Vol. 59, April 25, 1957, pp. 598-603.

<sup>6</sup> *Ibid.*

<sup>7</sup> For a study of area advertising practices, see *PUBLIC UTILITIES FORTNIGHTLY*, Vol. 50, July 3, 1952, p. 58.

<sup>8</sup> Such as the impression that utility profits are guaranteed by the government; that electric-generating stations along rivers consume water; general lack of knowledge of the issues of public *versus* private ownership; general lack of understanding of the need for higher rates in rate cases, etc. Here, the sales promotional program ties into the public relations program. The former, through institutional advertising, can be an important aid to the latter.

<sup>9</sup> *Gas Age Record*, Vol. 54, October 25, 1924, p. 613.

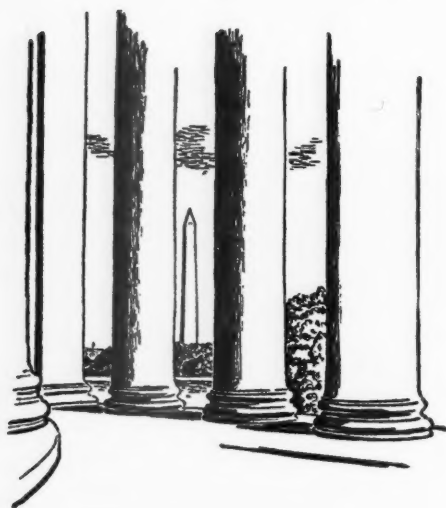
<sup>10</sup> See "Selecting and Training Utility Salesmen," by Philip M. Alden and Albert G. Garrigues, *PUBLIC UTILITIES FORTNIGHTLY*, Vol. 52, October 8, 1953, p. 487.

<sup>11</sup> Not quite all of industry expenditures are accounted for, since Federal Power Commission reports cover only utilities with \$250,000 or more annual sales (class A and B). However, the omission is not serious, as there are few such minute power companies in this country.

<sup>12</sup> Public Utilities Advertising Association, "1954 Analysis of Utility Advertising and Public Relations Expenditures" (1955) p. 31.

"THE American taxpayer cannot continue to work long hours and pay high taxes to subsidize people of the world that make fun of us for being money grabbers or money mad. It seems to me that the Congress must establish a program for 'relief' of the taxpayer. We are bankrupting ourselves by playing like there is no end to what we can spend and give away. We are there now. . . and God help us if we don't realize it before it's too late."

—RALPH E. RANDEL,  
Randel Motor Company,  
Panhandle, Texas.



## Washington and the Utilities

### *NRECA Meeting*

**T**HE high interest policy of the Eisenhower administration seemed to be the main target of the twenty-fifth annual convention of REA co-operatives in St. Louis, Missouri, February 22nd to 25th, judging by the speeches. Clyde T. Ellis, general manager of the National Rural Electric Co-operative Association, led off with an attack on the Eisenhower money policy, which Ellis claims seriously threatens the future of the rural electrification program. The Pace Act of 1944, which set the present 2 per cent interest rate on REA loans, was given credit for saving the co-ops \$50 million in interest on money borrowed. This low rate, plus an extension of the repayment period to thirty-five years, Ellis argued, made area coverage rural electrification by co-operatives possible.

Enormous growth for the electric co-operatives in the next twenty-five years was forecast, including farm use averaging 40,000 to 50,000 kilowatt-hours a year. Such a large amount of consumption, Ellis suggested, could mean an increase in total consumption of rural electric systems from about 29 billion kilo-

watt-hours in 1959 to 250 billion kilowatt-hours in 1985. He also foresees a fivefold boost in gross revenues—from \$618 million in 1959 to an estimated \$3.3 billion in 1985.

Taking a somewhat contrary position on higher interest rates, REA Administrator David A. Hamil told the NRECA convention that "continued public acceptance of rural electrification and rural telephony will depend on the position you take on the interest rate question." He claimed that the Pace Act of 1944 was not part of a perpetual covenant between Congress and REA borrowers. The intent, Hamil said, was that the rate would be adjusted by modifying legislation to reflect any substantial increase in the cost of government money. Hamil said criticism of the REA co-ops' 2 per cent interest rate would continue so long as they continued to invest other funds in securities at a higher rate. He stated he would like to see an arrangement whereby the co-ops could bank their surplus funds with REA and withdraw them as needed. Such funds, of course, would be credited with the same rate of interest that the co-operatives pay for borrowing from REA.

## WASHINGTON AND THE UTILITIES

THE REA head said REA co-ops today were strong, stable, with good prospects for continued growth. If they paid what President Eisenhower recommended—that is the average rate payable by the Treasury on long-term marketable obligations, plus one-fifth of 1 per cent for administrative expenses—the REA rate would be over 4 per cent. “Any rate less than that would be a subsidy,” Hamil declared, but “I am certain that many of you could absorb a cost-of-money increase without changing your rate structure in the slightest.”

Democratic Congressmen speaking at the NRECA convention pledged to fight to retain the 2 per cent interest rate on REA loans. Representatives Albert (Democrat, Oklahoma) and Andersen (Republican, Minnesota) were among those addressing the St. Louis meeting. Said Representative Albert, “We are going to fight every attempt to make this program a victim of the tight money policies of the present administration.” Representative Andersen said he saw no reason to change the REA loan program or its rate of interest on the loans. He also pointed his finger at the power companies, saying they “refused to go out into the country and serve the people but seek to stifle every struggling, but profitable co-op that might connect to their lines.”

### *Regulatory Reform Bills In Congress*

BILLS designed to strengthen existing conflict of interest laws have appeared in both the Senate and the House. They were apparently inspired by the disclosures of the House Subcommittee on Legislative Oversight, with respect to practices of industry subject to federal regulatory commissions. The bills (S 3080 and HR 10575) were introduced by Sena-

tor Javits (Republican, New York) and Representative Lindsay (Republican, New York). They would prohibit federal workers from receiving gifts, gratuities, or favors offered by a person who is doing business with or being regulated by the employee's agency.

Government employees would also be prohibited from being paid from outside sources for personal services unless such services are performed outside government working hours and are not forbidden by the department or agency. In addition, a person who terminates his government employment would be prohibited from dealing with his former agency on business matters for a period of two years. Stiff fines and possible jail sentences are prescribed for violations.

The bills which have been submitted are the outgrowth of a two-year study made by the New York City Bar Association. In its 600-page report, the local bar association group stated that “Statutory law—most of it a century old—is not broad enough to protect the government against the manifold modern forms of conflict of interest.” The New York city group believes that the proposed measures are not so stringent that they would prevent the retaining of both executive talent and scientific consultants.

A MORE far-reaching bill, HR 4800, by Representative Harris (Democrat, Arkansas) was among those measures to be considered in hearings beginning March 15th by the House Communications Subcommittee. Although the Harris Bill concerns not only the Federal Communications Commission, but also the Federal Power Commission, Securities and Exchange Commission, and other regulatory agencies, the Communications Subcommittee will be concerned mainly with regulatory reform bills affecting the FCC.



### *Bill to Aid Local Transportation*

**R**EPRESENTATIVE Irwin (Democrat, Connecticut) has introduced a bill (HR 10343) to set up a Mass Transit Financing Corporation. The corporation would be authorized to purchase the securities and obligations of, or to make loans to, municipalities or other state or local public authorities to finance the acquisition, construction, reconstruction, maintenance, and improvement of facilities and equipment for use in mass transit or commuter service for the purpose of making such facilities and equipment available by lease or otherwise to any public or private transit agency or railroad providing commuter service.

The federal government must do more for a proposed metropolitan transit agency in the nation's capital than help it go deeply into debt, according to District of Columbia Commissioner Robert E. McLaughlin. If the federal assistance of the National Capital Transportation Corporation takes mainly the form of loans, he said, "it is very unlikely that the states (of Virginia and Maryland) would ever enter into a compact undertaking this debt, or a very large portion of it." What is needed, McLaughlin said, is a recognition that the federal government owes the same proportionate financial responsibility to Washington, D. C., as dominant tax-paying industries do to other metropolitan areas. (See, also, page 415.)

### *Mineral Leasing Bill*

**A**NEW mineral leasing bill has been favorably reported to Congress by the House Interior Committee. This measure (HR 10455) was introduced by Representative Morris (Democrat, New Mexico) and it provides mainly that no per-

son, association, or corporation may hold more than 246,080 acres under oil or gas leases or options in any state except Alaska. Likewise, options to acquire interests in oil and gas leases may not exceed 200,000 acres in aggregate in any state except Alaska.

Lands leased within known oil- or gas-producing fields are to be leased in units of not more than 640 acres by competitive bidding. Lands not within such known areas may be leased to the first person making application. The bill provides that rentals shall be 50 cents per acre for each year of the leases. The primary terms of competitive leases shall be for five years and for noncompetitive leases, ten years. Noncompetitive leases in force before the adoption of the act may be subject to only one extension; however, an additional two years may be added if drilling for oil is going on at the time of the expiration. It has not been announced when Congress will debate the proposal.

### *Antipollution Bill Out*

**T**HE House sustained by a fairly close vote (22 more than necessary) President Eisenhower's veto of the water pollution bill. The proposal (HR 10243) would have provided \$90 million per year to assist local communities in building sewage disposal plants. In his veto message the President stated that the responsibility for water pollution control rests with state and local governments. In addition, the bill was looked upon as another case of excessive spending.

The veto message also noted that promise of such large-scale federal support would tempt municipalities to delay essential water pollution abatement measures at the local level, while waiting for federal funds.

# Telephone and Telegraph



## *USITA Management Development Program*

TELEPHONE company managements have been asked to consider arranging for one or more of their key employees to submit applications for enrollment at the Management Development Program sponsored annually by the United States Independent Telephone Association. This program is conducted at the University of Kansas, Lawrence, Kansas. The 1960 program is scheduled for the four-week period July 10th to August 5th. Enrollments are limited.

Brochures describing the 1960 program were placed in the mails during December, 1959. Those interested may, for a limited time, be able to obtain copies either through the offices of state telephone associations, or by writing directly to Dr. James R. Surface, director, USITA Management Development Program, c/o University of Kansas, School of Business, Lawrence, Kansas.

The USITA Management Development Program is the result of several years of study and development work by USITA's personnel committee and by the University of Kansas School of Business. During this study and development period, members of USITA's personnel committee visited many universities throughout

the country and were aided materially by counseling with many of our country's best experts in the field of management development work.

The program is designed for executives who currently have important administrative responsibilities. Areas of development are grouped under three general headings—"The Functions of Administration," "The American Business Climate," and "Rate Regulation." "The Functions of Administration" portion is, in turn, subdivided to include "Control and Financial Administration"; "Human Relations in Business"; "Merchandising"; and "Administrative Policy and Planning." The case method of instruction is used throughout much of the program.

## *AT&T Rushes Service for Correspondents*

THE American Telephone and Telegraph Company recently was involved in a unique "rush job" due to President Eisenhower's visit to Brazil. Brazil is in the midst of transferring its capital city from Rio de Janeiro to a new city called "Brasilia."

The new city, some 600 miles from Rio, is due for completion on April 21st. However, at the moment a great deal of

## PUBLIC UTILITIES FORTNIGHTLY

heavy construction is still going on. More than 125 correspondents accompanied the President on his South American tour and only one telephone circuit then connected Brasilia with the outside.

In a huge rush operation AT&T, under the co-ordination of Robert Bright of the Washington, D. C., office, assembled equipment from as far away as Honolulu in order to establish teletype circuits for the newsmen. Company officials estimated that the job, which was completed in several days, would have taken several months under ordinary circumstances. The news coverage of the President's visit to Brasilia attests to the great speed with which this project was completed.

### *New Recording Regulations For One-way Messages*

THE American Telephone and Telegraph Company has revised its tariffs, as of February 6, 1960, to permit the recording of incoming (one-way) interstate and foreign telephone messages without the use of the "beep" signal under the following conditions: (1) Connection of customer-owned voice recording equipment with the facilities of the telephone company for recording of incoming messages only shall be made through recorder control equipment furnished, installed, and maintained by the telephone company, which trips the ringing, holds the connection, sends a start tone to the customer-owned recorder, sends directing tones to the calling party, and disconnects at the end of the message. (2) Recorder control equipment will be furnished only in connection with non-published individual business lines and will not be furnished in connection with private branch exchange service. (3) A telephone set will be furnished by the tele-

phone company which can be used by an attendant to monitor the incoming call.

The telephone set will be equipped with a key which permits the attendant to converse with the calling party, but stops the recorder to prevent recording of such two-way telephone conversation when the telephone set is in use.

The Federal Communications Commission has been informally advised by AT&T that to date the equipment for the "one-way" service offering has been made available only to customers in the state of Massachusetts and that local tariffs have been filed with the Massachusetts Department of Public Utilities.

EXISTING tariff provisions requiring the use of the "beep" tone to indicate that a telephone conversation is being recorded, filed in compliance with an FCC order of May 20, 1948, in Docket No. 6787, continue to be applicable except for incoming messages, as indicated above.

In other words, recording of telephone conversations, except under the above conditions, without the "beep" signal is still prohibited. Telephone company tariffs permit the recording of telephone conversations only by direct physical connection of the customer-owned voice-recording equipment with the facilities of the company through recorder connector equipment furnished, installed, and maintained by the company, which contains a recorder tone device automatically producing a distinctive recorder tone repeated about every fifteen seconds to alert the party at the other end that the conversation is being recorded.

Similar tariff provisions govern intrastate telephone communications, subject to the jurisdiction of the respective state utility commissions or other state authority.

## TELEPHONE AND TELEGRAPH

### *Independent Telephone Corporation Acquires Two Companies*

WILLIAM B. HARRISON, president of the Independent Telephone Corporation, announced on February 23rd that his company had acquired two additional operating telephone companies in Michigan. Independent's new Michigan acquisitions are Lake City Telephone Company, of Lake City and Northern Telephone Company of Hale.

Mr. Harrison also said that Julius Fleischmann, financier and philanthropist of Cincinnati, Ohio, and Chauncey P. Williams, Jr., New York city attorney, had been elected directors, and Robert A. Russell and William C. Wood had been named treasurer and controller of the corporation, respectively.

Independent, a telephone holding company set up in September, 1955, owns or is affiliated with 15 telephone operating companies providing service to subscribers in New York, New Jersey, West Virginia, and Michigan.

### *FCC Notifies UHF License Holders to Begin Operation*

ON February 19th, the Federal Communications Commission served notice on 54 companies holding permits to operate ultrahigh-frequency television stations that their permits would be canceled unless they begin operation of their stations within the next thirty days. The argument has been advanced that the permit holders had delayed construction due to difficulties in obtaining equipment. The FCC, however, in its notification indicated that the commission was not convinced by

this argument. The FCC stated that the companies had apparently delayed construction of the UHF stations because of fear that they "could not succeed financially under present economic conditions."

### *RCA Receives Missile Detecting Contract*

THE Radio Corporation of America has been awarded a \$474,831,000 contract for the construction of a ballistic missile early warning system. The Pentagon earlier had named RCA as the group that would do the work; however, no dollar amount had been specified. It is anticipated that ultimately the radar network will cost some \$800 million. To date some \$700 million has been invested.

Air Force officials have stated that the BMEWS network will give a 15-minute warning against ballistic missiles. Completion of the system is hoped for in the next two years as part of our defense preparations. The radar used is designed to detect missiles as far away as 3,000 miles.

To detect an object at this great distance antenna reflectors measuring 165 feet by 400 feet are employed. The 15-minute early warning period is of great importance since it would enable the United States, in the event of an enemy attack, to fire back its own missiles or to get the Strategic Air Command's nuclear bombers into the air.

The first station is to be completed at Thule, Greenland, before the close of this year and the second station at Clear, Alaska, will be finished in 1961. A third station is slated to be constructed in Great Britain.





## Financial News and Comment

By OWEN ELY

### *1960 Trends Forecast for the Electric Utility Industry*

**I**N a recent address before the New York Society of Security Analysts Charles F. Hochgesang (appointed editor of the *Electrical World* after Fischer Black resigned to become vice president of Tampa Electric) gave the usual annual review and forecast for the electric utility industry, with figures and charts prepared by the staff of that publication. Salient points are summarized as follows:

In spite of the steel strike, kilowatt-hour sales gained 9.8 per cent last year as compared with the recession year 1958; a gain of 9 per cent in 1960 was forecast. Additions to electric utility plant last year approximated \$4.7 billion, and for 1960 should be a little larger at \$4.9 billion. Of the latter amount \$3.5 billion had been budgeted by investor-owned companies and the balance by public power agencies, factories, etc. The proportion of internal funds available to finance these construction programs had been increasing in recent years, he pointed out. Last year investor-owned utilities sold new securities equivalent to only about 56 per cent of construction needs, and for 1960 the percentage is estimated at 53 per cent.

Revenues of investor-owned electric utilities gained 8.2 per cent last year re-

flecting in part the recovery from the recession of early 1958; in 1960, a gain of 7.1 is forecast.

**L**AST year the average customer used 191 more kilowatt-hours, but the upturn in the last quarter (based on increased sale of appliances) was substantial enough to indicate a probable gain of 240 kilowatt-hours in 1960. In percentages these figures work out at 8.2 per cent for 1959 and an anticipated 9.3 per cent in 1960. Annual residential kilowatt-hour sales more than tripled during the decade ending 1959; perhaps 3 per cent of this gain can be credited to space heating and about the same amount to air conditioning. Some 13.5 million new customers were added, contributing 68 billion kilowatt-hours of the 114 billion increase; greater use by

#### DEPARTMENT INDEX

	Page
1960 Trends Forecast for the Electric Utility Industry .....	402
Calendar of Proposed Utility Offerings, March 1st-June 30th .....	404
Utility Financing 1958-59—EBS Charts Show Yield Premiums .....	405, 406
Table—Current Yield Yardsticks .....	407
Senior Money Cost Utilities 5.20 Per Cent in 1959 .....	408
Table—Financial Data on Electric Utility Stocks .....	408, 409, 410



## FINANCIAL NEWS AND COMMENT

existing customers accounted for the balance of the gain, or 39 billion kilowatt-hours.

In the next decade, Mr. Hochgesang predicted, another 13.3 million new customers should be added—almost the same as in the decade just ended. About two-thirds of the anticipated growth in sales should come from increased saturation of existing appliances, and the addition of new customer loads using these same appliances. The remaining third should result from increased usage by heating and cooling customers, together with sales of electricity to service newly developed appliances now in the laboratory stage of development. The forecast is based on the estimated output of new appliances: In 1960 the manufacturers expect to sell 9.5 per cent more dish washers, 6.7 per cent more built-in ranges, and 5.6 per cent more clothes washers, than they did in the record year 1959. The electric utility industry is planning to spend some \$30 million this year in advertising to promote "electric living."

**T**HE increase in electric heating and cooling has enormous long-term load-building potentialities. Based on a survey comprising nearly 70 per cent of U. S. meters, there were 642,000 space-heating installations at the end of June, 1959, and about 50,000 more were probably added in the last half of the year. For 1960, however, the utilities forecast a rise of nearly 19 per cent, which would bring the total up to 822,000 installations—including both resistance heating and the heat pump, and both residential and commercial installations. An average-size home in a moderate climate would use about 20,000 kilowatt-hours annually, with electric heating and cooling added to the normal load; thus the new load would be about six times the old. By 1969, with

the increasing use of heating, air conditioning, etc., the average annual residential bill may approximate \$160, up nearly 80 per cent from last year's \$89. (In the past decade the increase was 80 per cent.)

Commercial sales last year gained 10.7 per cent due to the rapid recovery in consumer goods sale—more air-conditioning installations, larger freezers for food handling firms, higher lighting standards for many commercial establishments, etc. Newly constructed buildings in New York city use three times as many kilowatt-hours as the buildings they replace. For example, the big new Socony Building is using nearly 20 kilowatt-hours per year per square foot of floor space; if all U. S. office space used this amount, commercial kilowatt-hour sales would be three times as large as they are now. Moreover, the Socony Building is not electrically heated. New lighting standards have recently been set by the Illuminating Engineers Society, two to five times higher than those now in use in many buildings. Sales of electricity for commercial cooking are also rising fast—in 1958 sales were up 19 per cent over 1957.

**I**NDUSTRIAL business, which comprises about 48 per cent of all kilowatt-hour sales public and private, are of course affected by industrial activity. The output of 304 billion kilowatt-hours in 1959 included sales to the Atomic Energy Commission of about 55 billion kilowatt-hours; excluding the latter, the increase over 1958 was 13 per cent. AEC purchases, which now account for nearly 9 per cent of total sales and 18 per cent of industrial sales, have remained fairly constant since 1957.

Mechanization and automation are expected to continue to gain in the coming decade with a further substitution of electricity for man power. Thus the increase

# PUBLIC UTILITIES FORTNIGHTLY

in industrial kilowatt-hour sales should continue to outstrip the rise in the FRB index. Mr. Hochgesang forecast an increase of 110 per cent in industrial sales in the coming decade—about the same as in the past decade, if the AEC load were omitted. This estimate falls about in the middle between the forecasts made by the Edison Electric Institute and the Federal Power Commission.

ESTIMATES of future growth in utility plant have some statistical support from figures supplied by the utilities themselves, which usually plan their expenditures several years ahead. Over the next three years private utilities are expected to increase their capacity 23 per cent. The ten utilities adding the greatest percentage of generating capacity over the next three years are the following:



## CALENDAR OF PROPOSED UTILITY OFFERINGS

March 1st to June 30th

<i>Date of Bidding Or Sale</i>	<i>Approx. Amount (Millions)</i>		<i>Method Of Offering</i>	<i>Moody Rating*</i>
<i>Bonds and Debentures</i>				
—	\$ 30	Michigan Wisconsin Pipe Line .....	C	Baa
—	30	Commonwealth Edison .....	C	Aaa
—	25	Tampa Electric .....	—	Aa
—	12	Washington Gas Light .....	—	A
3/1	10	General Telephone of Florida .....	N	—
3/14	14	Central Illinois Light .....	—	Aa
3/15	15	Northern Indiana Public Service .....	C	Aa
3/15	25	Chesapeake & Potomac Telephone .....	C	Aaa
3/17	4	Mississippi Power .....	C	A
3/29	20	Louisiana Power & Light .....	C	A
4/5	25	Carolina Power & Light .....	C	Aa
4/7	20	Alabama Power .....	C	A
4/11	18	National Fuel Gas .....	C	Aa
4/12	40	Mountain States Telephone & Telegraph .....	C	Aaa
4/18	20	Iowa-Illinois Gas & Electric .....	C	Aa
4/20	20	Puget Sound Power & Light .....	C	A
5/—	8	Savannah Electric & Power .....	C	—
5/5	25	Columbia Gas System .....	C	A
5/10	12	California Electric Power .....	C	A
6/—	3	Sierra Pacific Power .....	C	Aa
6/2	40	Southern Electric Generating .....	C	A
<i>Preferred Stock</i>				
—	—	Southwestern Public Service .....	—	—
<i>Common Stock Offered to Stockholders</i>				
—	—	Public Service of New Mexico .....	—	—
3/16	2	Sierra Pacific Power .....	—	—
3/30	2	Savannah Electric & Power .....	N	—
<i>Common Stock Offered to Public</i>				
3/23†	56†	General Telephone & Electronics .....	N	—
4/12	10	West Penn Electric .....	C	—
4/20	16	Middle South Utilities .....	C	—

N—Negotiated, C—Competitive. \*Preliminary, or rating of similar issues. †Approximate.

## FINANCIAL NEWS AND COMMENT

Missouri Public Service .....	118%
Mississippi Power .....	84
Tucson G. E. L. & P. ....	83
Arizona Public Service .....	81
Ohio Power .....	66
Southern Nevada Power .....	64
Public Service of New Mexico .....	59
Southern Colorado Power .....	54
Central Louisiana Electric .....	53
Iowa-Illinois G. & E. ....	51

However, Mr. Hochgesang pointed out that in considering these figures "you should determine the base on which each company's growth percentage is figured. Moreover, it may be that a company that has been purchasing a good bit of its power from other sources has decided or been forced to produce its own power. Another factor to consider is that with the widespread pooling arrangements, it is difficult to determine without study whether a company is increasing its generating capacity for its own system, or for the pool to which it belongs."

**O**PERATING efficiency is steadily increasing and in 1960 it is estimated that one kilowatt-hour will be produced from .88 of a pound of coal. However, because of the fluctuation in the cost of fuel the full benefits of increased efficiency were not obtained in the period 1954-59. However, the operating ratio has trended downward in the past five years despite a temporary increase in 1956-57. Last year the ratio stood at 42.3 and a decline to 41.2 is forecast for 1960. The breakdown follows:

	<i>Per Cent of Revenue Dollar</i>	
	<i>1959</i>	<i>Est. 1960</i>
Fuel .....	15.5	15.3
Salaries and Wages ....	17.1	16.8
Maintenance, Etc. ....	9.7	9.1
Taxes .....	23.2	22.7
Depreciation .....	11.5	12.3
Fixed Charges, Divi- dends, and Surplus ..	23.0	23.8
	100.0%	100.0%

Mr. Hochgesang reported that in 1959

the state commissions granted 25 electric rate increases for a total of \$54 million a year, this amount being well below the previous two years. At the 1959 year end there were some 27 applications pending.

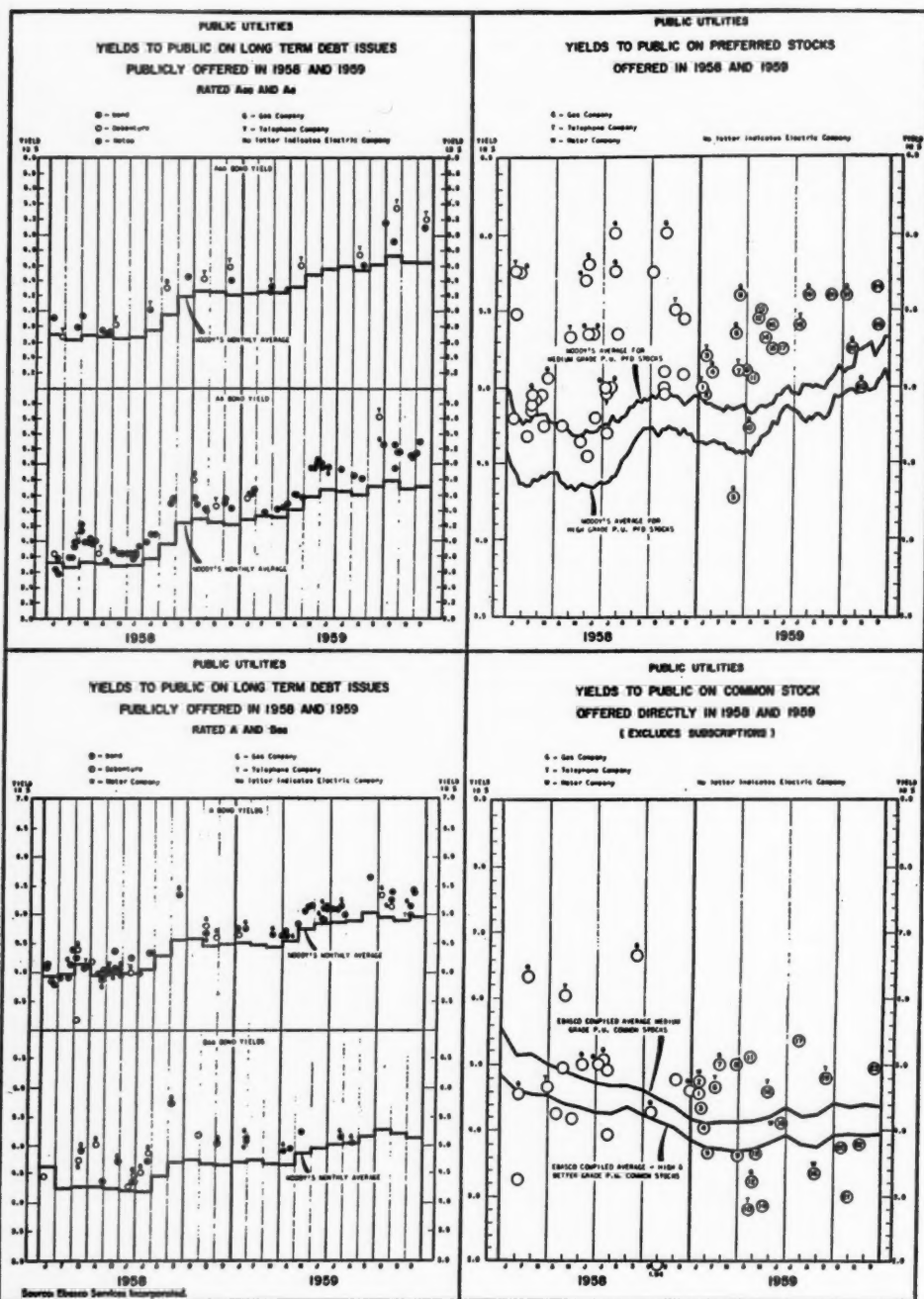
**S**OME interesting details on the growth of public power were presented. Federal generating plants now have a capacity of about 28.7 million kilowatts, almost a quarter of the total installed capacity of the country. There are nearly 1,000 REA co-operatives, financed almost entirely by government loans; and some 1,900 municipal, district, and state-owned power systems. Summarizing, public power has gained slightly at the expense of investor-owned power in the past decade but there has been no radical change.

Unfortunately, the moderate trend in favor of public power seems likely to continue. For the first time in several years the administration has asked Congress for funds to construct several power projects—Yellowtail dam in Wyoming, Blue Mesa dam in Colorado, and Green Peter dam in Oregon, together with some miscellaneous projects. TVA plans to sell bonds this year and may spend some \$500 million over the next three years for new generating facilities. The REA wants \$220 million from the Treasury, including \$54 million for a 198,000-kilowatt steam plant in Indiana. Public power interests also continue active on a broad front, using such propaganda as the Moss Report on Russian power plans and the coming Kerr Report on U. S. water resource needs.

### *Utility Financing 1958-59— EBS Charts Show Yield Premiums*

**T**HE four accompanying charts, prepared by Ebasco Services Incorporated

# PUBLIC UTILITIES FORTNIGHTLY



## FINANCIAL NEWS AND COMMENT

rated in connection with their service "Analysis of Public Utility Financing," show the yields on securities offered to the public in 1958 and 1959 in four groups: Aaa- and Aa-rated bonds, A and Baa bonds, preferred stocks, and common stocks (excluding subscriptions). The heavy lines in each box show the trends of the Moody averages for the types of securities indicated, reflecting yields based on the established markets for older securities; the dots and small circles indicate the yields on new issues at the time of offering.

THE charts illustrate the fact, which is almost always true of senior securities, that offering yields must be higher than the established yields as reflected in the averages—in other words there must usually be a premium to "sell" the new issue, as otherwise institutions and other purchasers would not reserve enough buying power to take care of the offering, but instead would merely buy old issues. When the bond market is weak the yield premiums must usually be higher than is normally the case, as buyers may be reluctant to commit large funds. In the box for Aa bonds, two issues were sold below the Moody average yield in January, 1958,

and other issues in the first half of the year were only moderately above the averages; but in the second half, with bonds declining and yields rising as the Federal Reserve "put on the screws," the premiums on new security yields tended to increase.

In February and March, 1959, with a more stable market, premiums were smaller but with the resumption of the "money squeeze" premiums rose again.

FOR some reason premiums on A-rated bonds tended to hold more closely to the Moody averages—in fact a number of issues in earlier 1958 were below the average. Among the Baa issues there was less of a logical arrangement—the premiums did not seem to have much relationship to the Moody averages but perhaps the number of issues were too few in number to give a clear picture; moreover, Baa issues compete with high-yielding common stocks as well as with other bonds.

The graph showing the trend of preferred stock yields is a little difficult to interpret because there are two averages—yields for medium-grade and high-grade issues. The higher yields on new issues—over 5½ per cent—were mainly

CURRENT YIELD YARDSTICKS  
(Standard & Poor's Indexes)

	Feb. 24, 1960	1959-60 Range		1958 Range	
		High	Low	High	Low
Utility Bonds—A1+ .....	4.58%	4.72%	—4.23%	4.27%	—3.58%
—A1 .....	4.66	4.76	—4.24	4.34	—3.61
—A .....	4.77	4.94	—4.44	4.51	—3.85
—B1+ .....	4.92	5.19	—4.71	4.96	—4.20
Preferred Stocks* .....	4.81	4.90	—4.45	4.67	—4.26
Utility Common Stocks .....	4.06	4.13	—3.71	4.98	—3.81
Spread—Common Stocks v. A1+ Bonds ....	—0.52	—0.59	—0.52	+0.71	+0.23

\*Twelve industrial and two utility issues (high-grade).



# PUBLIC UTILITIES FORTNIGHTLY

for gas issues, probably due to special conditions in that industry; and premiums over the Moody averages were 1 per cent or more in some cases.

**I**N the chart on common stock offerings, the idea of "premiums" seems to carry less weight. In 1958 only three issues, two gas and one telephone, had substantial yield premiums over the Ebasco averages of high- and medium-grade electric utility common stocks; and in both years a number of issues were sold at less than the prevailing average yields. Obviously, common stocks cannot be "rated" so easily as bonds and preferred stocks, and the individual characteristics of growth, regulatory status, dividend pay-out, etc., have much to do with creating deviations of individual offering prices and yields from the overall averages.

## Senior Money Cost Utilities 5.20 Per Cent in 1959

**I**N 1959 the average net cost of bond money to the utility companies (after paying syndicate commissions, printing costs, etc.) was 5.10 per cent and the cost of preferred stocks was 5.55 per cent. The compilation is based on the complete records kept by Ebasco Services, excluding issues less than \$1 million as well as convertible debentures and preferred stocks, but including private placements. A weighted average for all senior issues works out at 5.20 per cent for the year.

The cost of bond money rose steadily from 4.90 per cent in the first quarter to 5.36 per cent in the last quarter; the cost of preferred stock money was more erratic, with a high of 5.71 per cent in the third quarter.



## FINANCIAL DATA ON ELECTRIC UTILITY STOCKS

Annual Rev. (Mill.)			2/24/60 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% In- crease	Aver. Incr. In Sh. Earnings 1954-59	Price- Earnings Ratio	Div. Pay- out	Approx. Common Stock Equity
\$324	S	American Elec. Power ....	49	\$1.80	3.7%	\$2.30De	—	6%	21.3	78%	38%
57	O	Arizona Pub. Serv. ....	36	1.20	3.3	*1.81Se	D5	9	*20.0	66	26
12	O	Arkansas Mo. Power ....	21	1.00m	4.8	1.34Se	—	2	15.7	75	32
38	S	Atlantic City Elec. ....	31	1.10	3.5	*1.45De	11	9	*21.4	74	31
169	S	Baltimore Gas & Elec. ....	26	1.00	3.8	1.41De	18	8	18.4	71	42
7	O	Bangor Hydro-Elec. ....	38	2.00	5.3	3.10De	23	5	12.3	65	33
7	O	Black Hills P. & L. ....	31	1.48	4.8	2.53Oc	5	4	12.3	58	38
109	S	Boston Edison ....	60	3.00	5.0	3.64Je	NC	4	16.5	82	43
27	A	Calif. Elec. Power ....	19	.80	4.2	*1.15De	1	5	*16.5	70	35
23	O	Calif. Oreg. Power ....	34	1.60	4.7	1.93My	1	3	17.6	83	37
9	O	Calif. Pac. Util. ....	20	.90	4.5	1.34De**	25	4	14.9	67	31
70	S	Carolina P. & L. ....	38	1.32	3.5	2.20Ja	9	5	17.3	60	42
32	S	Cent. Hudson G. & E. ....	20	.80	4.0	*1.41De	5	5	*14.2	57	36
26	O	Cent. Ill. E. & G. ....	35	1.44	4.1	2.19De	5	13	16.0	66	42
43	S	Cent. Ill. Light ....	34	1.52	4.6	2.45Ja	20	10	13.9	62	32
55	S	Cent. Ill. P. S. ....	46	1.92	4.2	2.71Ja	5	13	17.0	71	35
20	O	Cent. Louisiana Elec. ....	44	1.80	4.1	2.25De	2	8	19.6	80	33
42	O	Cent. Maine Power ....	25	1.40	5.6	*1.77De	7	—	*14.1	79	32
147	S	Cent. & South West ....	32	.96	3.0	1.38Se	10	8	23.2	69	40
12	O	Cent. Vermont P. S. ....	20	1.08	5.4	*1.39De	5	1	*14.4	78	33
140	S	Cincinnati G. & E. ....	33	1.50	4.5	1.97De	6	3	15.7	76	40
8	O	Citizens Util. "B" ....	13	.56	4.3	.69Se	6	6	18.8	81	48
119	S	Cleve. Elec. Illum. ....	49	1.80	3.7	2.95De	13	5	16.6	61	45
7	O	Colo.-Cent. Power ....	22	.75	3.4	1.08De	8	7	20.4	69	45

MARCH 17, 1960

# FINANCIAL NEWS AND COMMENT

Annual Rev. (Mill.)	(Continued)	2/24/60 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% In- crease	Aver. Incr. In Sh. Earnings 1954-59	Price- Earnings Ratio	Div. Pay- out	Approx. Common Stock Equity
46	S Columbus & S. O. E. ....	43	1.60	3.7	2.40De	19	—	18.0	67	30
405	S Commonwealth Edison ....	57	2.00h	5.8h	3.65N	15	7	15.6	55	43
16	A Community Pub. Serv. ..	25	1.00	4.0	1.49De	13	5	16.8	67	42
84	O Conn. Lt. & Pr. ....	24	1.10	4.6	*1.40Ja	D2	5	*17.1	79	36
582	S Consol. Edison ....	62	3.00	4.8	*3.92De	5	5	*15.8	76	36
228	S Consumers Power ....	55	2.60	4.7	3.80Ja	9	1	14.5	68	38
90	S Dayton P. & L. ....	48	2.40	5.0	3.22De	—	1	14.9	74	36
50	S Delaware P. & L. ....	70	2.28	3.3	3.18Se	13	9	22.0	72	33
246	S Detroit Edison ....	42	2.00	4.8	2.38Ja	9	3	17.6	84	47
145	A Duke Power ....	42	1.40i	3.3	2.18Oc	NC	9	19.3	64	42
101	S Duquesne Light ....	23	1.10	4.8	*1.44De	3	5	*16.0	76	34
36	O East. Util. Assoc. ....	41	2.20	5.4	3.02De	10	6	13.6	73	33
3	O Edison Sault Elec. ....	19	.90	4.7	1.43Se	27	8	13.3	63	34
17	O El Paso Elec. ....	36	1.16	3.2	1.69De	8	7	21.3	69	36
12	S Empire Dist. Elec. ....	27	1.36	5.0	1.82De	14	3	14.8	75	33
57	S Florida Power Corp. ....	30	.80	2.7	1.14De	D5	15	26.3	70	35
145	S Florida P. & L. ....	55	.96	1.7	1.93De	10	18	28.5	50	42
4	O Florida Pub. Utils. ....	18	.72	4.0	1.22Se	3	3	14.8	59	31
213	S General Pub. Util. ....	23	1.12	4.9	*1.62Se	4	5	*14.2	69	40
7	O Green Mt. Power ....	19	1.10	5.8	1.28De	D10	3	14.8	86	38
78	S Gulf States Util. ....	30	.90	3.0	1.36De	5	8	22.2	67	33
54	A Hartford Electric ....	63	3.00	4.8	*3.65De	2	2	*17.3	82	40
27	O Hawaiian Elec. ....	55	2.50	4.5	3.28De	8	7	16.8	76	34
94	S Houston L. & P. ....	68	1.60	2.4	3.05Ja	4	8	22.3	52	41
34	S Idaho Power ....	47	1.70	3.6	2.32De	D10	5	20.3	73	33
92	S Illinois Power ....	45	2.00	4.4	2.72Ja	28	7	16.5	74	37
49	S Indianapolis P. & L. ....	40	1.70	4.3	2.41Se	14	7	16.6	71	35
31	S Interstate Power ....	19	.90	4.7	1.17De	10	4	16.2	77	32
42	S Iowa Elec. L. & P. ....	38	1.80	4.7	2.40De	16	3	15.8	75	40
44	S Iowa-Ill. G. & E. ....	37	1.90c	5.1	2.58De	10	—	14.3	74	43
47	S Iowa P. & L. ....	33	1.60	4.8	2.06De	1	3	16.0	78	31
35	O Iowa Pub. Service ....	18	.80	4.4	1.26De	12	3	14.3	63	32
15	O Iowa Southern Util. ....	30	1.48	4.9	2.20De	12	4	13.6	67	40
61	S Kansas City P. & L. ....	46	2.20	4.8	3.10De	2	5	14.8	71	34
33	S Kansas G. & E. ....	44	1.64	3.7	2.54Ja	—	8	17.3	65	36
54	S Kansas P. & L. ....	32	1.42	4.4	2.40De	14	8	13.3	59	36
43	O Kentucky Util. ....	34	1.60	4.7	2.76Se	17	7	12.3	58	40
7	O Lake Superior D. P. ....	25	1.28	5.1	1.68Se	7	2	14.9	76	41
122	S Long Island Lighting ....	33	1.30	4.0	*2.04De	6	6	*16.2	64	34
66	S Louisville G. & E. ....	42	1.40	3.3	2.47De	11	8	17.0	57	46
11	O Madison G. & E. ....	46	1.80	3.9	4.03Se	16	2	11.4	45	45
5	A Maine Pub. Ser. ....	20	1.20	6.0	1.48De	D4	2	13.5	81	43
7	O Michigan G. & E. ....	76	1.70j	5.4	5.67Se	26	9	13.4	30	37
198	S Middle South Util. ....	52	2.00	3.8	2.81De	8	7	18.5	71	34
30	S Minn. P. & L. ....	32	1.60	5.0	2.23Ja	D3	3	14.3	72	33
16	S Missouri P. S. ....	17	.72f	4.2	1.02De	14	3	16.7	70	25
8	O Missouri Util. ....	27	1.36	5.0	1.67De	1	—	16.2	81	35
44	S Montana Power ....	24	.80	3.3	*1.36De	3	9	*17.6	59	39
167	S New England Electric ....	21	1.08	5.1	1.29Se	7	1	16.3	84	36
46	O New England G. & E. ....	23	1.16	5.0	1.72De	7	6	13.3	67	41
105	S N. Y. State E. & G. ....	25	1.20	4.8	*1.80De	D3	8	*13.9	67	40
264	S Niagara Mohawk Power ..	35	1.80	5.1	*2.03Oc	D6	1	*17.2	89	28
104	O Northern Indiana P. S. ....	51	2.20	4.3	3.13De	13	5	16.3	70	36
155	S Northern Sts. Power ....	24	1.10	4.6	1.41De	8	3	17.0	78	36
11	O Northwestern P. S. ....	20	1.10	5.5	1.52Se	6	2	13.2	72	32
138	S Ohio Edison ....	63	2.96	4.7	3.96De	10	3	15.9	75	40
54	S Oklahoma G. & E. ....	29	1.12	3.9	1.45Ja	—	9	20.0	77	31
26	O Orange & Rockland Utils. .	30	.90	3.0	*1.29De**	3	16	*23.3	70	27
17	O Otter Tail Power ....	32	1.80	5.6	2.51N	22	1	12.8	72	30
535	S Pacific G. & E. ....	62	2.60	4.2	3.70De	D1	6	16.8	70	34
52	O Pacific P. & L. ....	37	1.60	4.3	*1.90N	D28	7	*19.5	84	30
131	S Penn P. & L. ....	27	1.25	4.6	1.73De	7	5	15.6	72	34
248	S Phila. Elec. ....	50	2.24	4.5	2.90De	5	3	17.2	77	38
36	O Portland Gen. Elec. ....	28	1.20	4.3	1.76De	D2	7	15.9	68	37

# PUBLIC UTILITIES FORTNIGHTLY

Annual Rev. (Mill.)	(Continued)	2/24/60 Price About	Divi- dend Rate	Approx. Yield	Recent Share Earnings	% In- crease	Aver. Incr. In Sh. Earnings 1954-59	Price- Earnings Ratio	Div. Pay- out	Approx. Common Stock Equity
72 S	Potomac Elec. Power .....	27	1.32	4.9	*1.64Se	12	6	*16.5	80	36
97 S	Pub. Serv. of Colo. ....	54	1.90	3.5	2.57Se	—	5	21.0	74	33
344 S	Pub. Serv. E. & G. ....	37	1.80	4.9	2.42De	7	3	15.3	74	35
88 S	Pub. Serv. of Ind. ....	43	2.10	4.9	2.72De	D6	3	15.8	77	32
34 O	Pub. Serv. of N. H. ....	19	1.04	5.5	1.36Ja	7	—	14.0	76	34
15 O	Pub. Serv. of N. Mexico ..	33	1.00	3.0	**1.44De	14	13	22.9	69	34
27 S	Puget Sound P. & L. ....	31	1.44	4.6	2.11De	7	10	14.7	68	42
65 S	Rochester G. & E. ....	45	1.80o	4.0	*3.32De	14	4	*13.6	54	34
10 S	St. Joseph L. & P. ....	31	1.50n	4.8	2.13De	23	6	14.6	70	37
71 S	San Diego G. & E. ....	26	1.12	4.3	1.66De	26	9	15.7	67	39
12 O	Savannah E. & P. ....	28	1.00	3.6	1.25De	D14	1	22.4	80	32
12 O	Sierra Pacific Pr. ....	38	1.60	4.2	2.38De	23	14	16.0	67	33
256 S	So. Calif. Edison ....	57	2.60	4.6	3.83N	NC	8	14.9	68	35
50 S	So. Carolina E. & G. ....	38	1.40	3.7	1.75N	D6	11	21.7	80	33
7 O	Southern Colo. Pr. ....	18	.90	5.0	1.18N	D22	4	15.3	76	36
272 S	Southern Co. ....	41	1.40	3.4	1.93De	7	7	21.2	73	34
20 S	So. Indiana G. & E. ....	34	1.60	4.7	2.53De	5	3	13.4	63	35
8 O	So. Nevada Power ....	29	1.10	3.8	1.83De	19	6	15.8	60	46
4 O	Southwestern E. S. ....	17	.72	4.2	1.00Ja	3	5	17.0	72	28
47 S	Southwestern P. S. ....	48	1.68	3.5	2.11Ja	16	7	22.7	80	37
32 A	Tampa Electric ....	28	.72	2.6	.98De	10	9	28.6	73	36
183 S	Texas Utils. ....	73	1.92	2.6	2.93De	7	9	24.9	66	41
47 S	Toledo Edison ....	16	.70	4.4	1.12De	—	2	14.3	63	29
17 O	Tucson G. E. L. & P. ....	24	.76	3.2	1.15De	13	9	20.9	66	41
132 S	Union Elec. ....	34	1.64	4.8	*1.88De	4	6	*18.0	87	32
36 O	United Illum. ....	28	1.38	4.9	1.66Oc	1	3	17.0	83	50
6 O	Upper Penn. Pr. ....	28	1.60	5.7	1.73N	D3	2	16.2	92	32
50 S	Utah Power & Light ....	36	1.32	3.7	1.85Ja	5	5	19.5	71	44
151 S	Virginia E. & P. ....	38	1.20	3.2	1.70De	2	9	22.3	70	39
36 S	Wash. Water Pr. ....	41	2.00	4.9	*2.63Ja	9	8	*15.6	76	32
142 S	West Penn. Elec. ....	36	1.60	4.4	2.38Ja	5	6	15.1	67	32
77 O	West Penn. Power ....	56	2.40	4.3	3.46Se	6	6	16.2	69	38
12 O	Western Lt. & Tel. ....	41	2.00	4.9	3.20De	14	2	12.8	63	41
32 O	Western Mass. Cos. ....	25	1.20	4.8	1.66De	—	—	15.1	72	48
119 S	Wisc. El. Pr. (Cons.) ....	39	1.80	4.6	2.87De	36	1	13.6	63	40
44 O	Wisconsin P. & L. ....	32	1.48	4.6	2.34De	15	3	13.7	63	37
43 S	Wisconsin P. S. ....	26	1.30	5.0	1.90De	7	3	13.7	68	35
Averages .....				4.3%		7%	6%	17.0	73%	
Foreign Companies										
215 S	Amer. & Foreign Pr. ....	9	\$ .50	5.6%	\$1.79Se	D10	0%	5.0	28%	57%
129 A	Brazilian Traction ....	4½	—	—	.64De†	D58	—	7.0	—	76
83 A	British Col. Pr. ....	35	1.40	4.0	1.95De†	D16	7	17.9	72	28
20 O	Calgary Power ....	17	.40	2.4	.89De†	11	18	22.5	45	31
19 A	Gatineau Power ....	36	1.50	4.2	1.98De	D22	9	18.2	76	35
49 O	Mexican L. & P. ....	15	1.00b	6.7	1.66De†	D16	—	9.0	60	41
15 A	Quebec Power ....	34	1.60	4.7	2.34De†	8	10	14.5	68	53
71 A	Shawinigan Water & Pr. ..	28	.68	2.4	1.45De	D10	23	19.3	47	38

\*Deferred taxes resulting from liberalized depreciation are not normalized. If they had been normalized the price-earnings ratio would be higher. †December, 1958. \*\*On average shares. D—Decrease. NC—Not comparable. A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. b—Also 5 per cent stock dividend May 1, 1959. c—Also 5 per cent stock dividend June 10, 1959. f—Also stock dividend of one-half per cent quarterly. h—Also 2½ per cent stock dividend December 1, 1959, included in yield. i—Also 15 per cent stock dividend January 29, 1959. j—Also 3 per cent stock dividend (paid each year end) included in the yield. k—Also 5 per cent stock dividend February 20, 1959. m—Also 5 per cent stock dividend June 15, 1959. n—Also 10 per cent stock dividend November 20, 1959. o—Also 3 per cent stock dividend January 25, 1960.



## What Others Think

### Difficulties of British Sales of Atomic Power Plants

THERE are increasing signs that British firms manufacturing plant equipment for nuclear power stations are getting less actual orders than expected. Articles in the British daily press, speeches of heads of atomic business, and surveys of the position appearing in the technical press indicate uncertainty about the economic aspects of nuclear power. Although conditions are somewhat different in the U.S.A. and Canada from those prevailing in the British Isles and in the Commonwealth, it should be of interest for management of electrical utilities to have presented a brief survey of prospects of the nuclear industry in Great Britain.

#### Development of Nuclear Power Industry

THERE are at the present time five large partnerships in Britain engaged in the design and construction of nuclear power stations. In addition, a few individual firms are offering small atomic power plants for industrial or utility purposes. These smaller plants will be manufactured mainly under U.S.A. licenses—if orders can be secured. Up to now no substantial contracts have, however, been obtained.

As is well-known, the basic development was and to a great extent is still in the hands of departments of the British

government, such as the U. K. Atomic Energy Authority. For so-called security reasons much research results have been kept secret, and the British nuclear industry was severely hampered during the early stage of developments. Today it still depends to a great extent on close co-operation with official research sources and this is regarded with some misgivings by critics.

When the decision was made to build the first gas-cooled graphite—moderated atomic reactor at Calder Hall, the electrical industry in Great Britain entered the nuclear field actively for the first time at the end of 1954. The decision was made to concentrate on development of this one reactor type only, not solely for power stations for utilities but also for industrial purposes.

ONCE the British industry has been given its freedom to proceed on its own with developments the results have been extremely satisfactory from the technical angle. Reactors could now be designed, free from influence of red tape and constructional details based more on theoretical considerations of scientists than on practical demands from engineers and management. Reactors have been developed in the drawing offices of British

# PUBLIC UTILITIES FORTNIGHTLY

TABLE A  
POWER REACTORS IN GREAT BRITAIN  
(IN OPERATION, UNDER CONSTRUCTION, OR PROJECTED)

Country	Location	Designation	Reactor Type	Became Critical	Owner	Designer
United Kingdom	Calder Hall	Calder Hall A1	Gas-graphite	May, 1956	UKAEA	UKAEA
"	"	" " A2	"	Nov., 1956	"	"
"	"	" " B1	"	March, 1958	"	"
"	"	" " B2	"	Dec., 1958	"	"
"	Chapelcross	Chapelcross ... (4 reactors)	"	During 1959	UKAEA	UKAEA
"	Berkeley	Berkeley ..... (2 reactors)	"	1960	CEGB	AEI-JT
"	Bradwell	Bradwell ..... (2 reactors)	"	1960	CEGB	NPPC
"	Hinkley Point	Hinkley Point . (2 reactors)	"	1961-62	CEGB	EE-B & W-TW
"	Hunterston	Hunterston ... (2 reactors)	"	1961-62	SSEB	GEC (UK)-SC

Fuel	Moderator	Cooling Agent	Outlet Temper. °C	Pressure p.s.i.	Power MW Thermal	Power MW Electric
U nat.	Graphite	CO <sub>2</sub>	336	100	180	35
"	"	"	"	"	180	35
"	"	"	"	"	180	35
"	"	"	"	"	180	35
"	"	"	345	125	per react. 550	140 total 4 react.
"	"	"	390	147	per react. 530	275 total 2 react.
"	"	"	373	185	per react. 980	300 total 2 react.
"	"	"	395	150	per react. 535	500 total 2 react.
					per react.	300 total 2 react.

UKAEA = United Kingdom Atomic Energy Authority.  
CEGB = Central Electricity Generating Board.  
AEI-JT = Associated Electrical Industries Ltd.—John Thompson Ltd.  
NPPC = Nuclear Power Plant Co. Ltd.  
EE-B&W-TW = English Electric—Babcock & Wilcox—Taylor Woodrow.  
GEC-SC = General Electric Company of England—Simon Carres.

manufacturers which provided a much larger power output than achieved with the first Calder Hall reactor type. This produced a revision of planned expansion on part of the only big customer; namely, the British government department, the

MARCH 17, 1960

Central Electricity Generating Board, London.

## Financial Repercussion

ALTHOUGH it has never been bluntly stated, the technical progress made



## WHAT OTHERS THINK

by private nuclear industry by far exceeds the expectations of the officials. The result is that a smaller number of atomic power stations, but of higher individual energy output, are required today, and future orders for plants have become scarce. At the same time the surplus of coal in the world, and availability of abundant fuel oil supplies at low prices upset all plans. The market for British-built atomic power plants in European countries, and in undeveloped countries, like India, has also not developed as predicted.

**I**N addition, it should be stated that the variety of American designs, and the assistance which the U.S.A. government provides to its atomic industry for export orders, are other points to be considered. Long-term credit, such as repayment in small instalments of invested capital during twenty years, is not what the British partnerships like, and is also practically outside their financial capacity.

The result is that the British partnerships, and also the smaller firms, lack orders. And they have to pay for a large, highly skilled design and production staff,

and also for research and development. Incidentally, it has lately repeatedly been stated that with development of a high-temperature gas-cooled reactor type using natural uranium the limit of exploitation of this otherwise highly successful type has been reached.

### Future Developments

**R**EADERS should not, however, think that the British are at the end of their possibilities. There are still many attractive features for overseas buyers to be considered when buying British-made plants. An enormous amount of practical operational experience has become available. Nuclear fuel cost is low and supplies are ensured. Economics of the new gas-cooled reactors are just as good as other designs, and first installation costs are bound to become less as the newer reactor types become available, which are eminently suitable for base load stations.

Experts have suggested two ways to assist the hard-pressed British atomic power plant industry. First, they argue that the Central Electricity Generating Board should place immediately a few new orders for advanced gas-cooled re-



TABLE B  
ESTIMATES OF POWER AND ENERGY REQUIRED FROM NUCLEAR  
FISSION IN GREAT BRITAIN FOR YEARS 1965-66 TO 1980-81, AS  
ESTIMATED SEPTEMBER, 1955

	1965-66	1970-71	1975-76	1980-81
(1) Units required from thermal stations, 10 <sup>6</sup> kwh . .	132,500	171,500	223,000	287,000
(2) Units obtained from home-produced coal, 10 <sup>6</sup> kwh .	107,000	131,000	136,500	140,500
(3) Units required from nuclear fission and/or imported fossil fuel, 10 <sup>6</sup> kwh . . . . .	25,500	40,500	86,500	146,500
(4) Nuclear capacity required to provide (3), MW s.o.	3,900	6,200	13,200	23,000
(5) Assumed annual load factor of nuclear plant, % .	75.0	75.0	75.0	73.0
(6) Capacity of coal-fired plant required, MW s.o. . . .	33,600	41,600	47,700	54,400
(7) Average load factor of coal-fired plant, % . . .	36.4	35.9	32.7	29.5

## PUBLIC UTILITIES FORTNIGHTLY

actors. Second, they advocate an accelerated program for development and production of smaller nuclear reactors of from say 50- to 120-megawatt capacity. These could be used for stations having lower load factors. What nobody suggests, not even in theory, is to subsidize openly export orders, such as has been done recently by the U.S.A. for the Euratom program.

The writer does not know how management of American public utilities feels about the Euratom policy and long-term credits given by the U.S.A. government, but here in Great Britain it has come under critical review.

IT is also being pointed out that "Dutch auction" methods applied by overseas potential buyers should be abolished by some form of agreement between American and British builders of atomic power stations. And the same applies to the British and to the American power plant industry in each country, respectively.

A typical example is the recent order placed by the Japanese government with a British firm. In this international competition several American and three British firms competed against each other. The order went finally to a British maker for financial and for certain technical reasons, the latter being considerations connected with safety in case of earthquakes. The export market is not safe from other competition. There is France coming along, and it will not be too long when

German firms will also compete for export orders.

MANAGEMENT of public utilities in the U.S.A. will do well to watch very carefully technical and financial developments in Great Britain and in other European countries. And it should do what it can to prevent American builders of nuclear power plants from losing money on export orders by placing more home orders at reasonable prices, and not in a cutthroat competition.

Electric utilities in the United States which are either contemplating entering the atomic power field or are already in it should learn from events in other countries. As the largest potential buyers they should insist that re-evaluation of components of major stations has become essential, and that simplification of designs based on practical operational engineering experience must be applied.

Grateful as everybody is to the scientists who have pioneered nuclear power, they have now to give way to design and construction engineers. Many superfluous so-called "refinements" will thus disappear, and economics will rise. What ultimately matters to management of public utilities is the cost per power unit generated, and not the novelty of the method by which energy is produced.

—LEO WALTER,  
*Consulting engineer and  
technical author,  
Gloucester, England.*

---

"... the components of national security are so varied that they cannot be measured by one weapon system alone. Security depends upon a balanced defense establishment, on good international relations, and on a deeply based national morale."

—EDITORIAL STATEMENT,  
Christian Science Monitor.

# The March of Events



## Saline Water Pacts Signed

**T**HE Department of Interior has signed two separate co-operative agreements with the states of South Dakota and North Carolina which provide for mutual assistance in the study of saline water conversion problems. These are the sixth and seventh such agreements that have been entered into by the Interior Department.

The action was taken on the basis of a 1952 law which authorizes exchanges of information and assistance between states and the government in the saline water field. Specifically, the agreements signed provide for exchange of information on development of improved saline water conversion processes and their actual application, both present and potential.

## District of Columbia

### Transit Pact Speeded by ICC

**L**EGISLATION by Congress, which would give area-wide control in the nation's capital city transportation setup by a metropolitan Washington transit service, has been given the blessing of the Interstate Commerce Commission. The ICC has notified the House Judiciary Committee that it would accept clarifying language in legislation to create a Metropolitan Area Transit Commission. A hearing is planned at which the Judiciary Subcommittee

hopes to give congressional approval to a compact which already has been endorsed by the Virginia and Maryland legislatures. There is still opposition to the plan by the D. C. Transit System.

The new plan is designed to unify and co-ordinate into an efficient transit system the bus services of the District of Columbia, Maryland, and Virginia areas which now straddle the boundaries and make a transportation patchwork of transit companies.

## Illinois

### Utility-Railroad Decision

**T**HE Illinois supreme court in January dealt with the question of two different types of utilities sharing the cost of converting electrical signaling equip-

ment to eliminate interference. The case involved Central Illinois Public Service Company whose power lines were causing false signals on a railroad train-stop system, operated by Illinois Central Railroad.

## PUBLIC UTILITIES FORTNIGHTLY

The Illinois commission found that the best engineering solution was to convert the train-stop system from 60- to 100-cycle current and ordered both the railroad and the power company to share the conversion cost equally. The power company contended that its lines had been constructed in accordance with commission rules and that it was therefore without negligence. However, the court upheld the ruling.

### Phone Company Purchase

**T**HE Illinois Commerce Commission has authorized the Cass County Tele-

phone Company to purchase the Ashland Telephone Company and the Cass County Telephone & Telegraph Company. The new company would provide dial service for the Virginia-Ashland area. The Ashland Telephone Company was purchased for \$50,000 and the Cass County system for \$100,000, with the transaction to be completed through stock payments.

Present rates were to remain in effect until the two exchanges were converted to dial operation. The commission said the sale and merger would mean better phone service for the area.

## Kentucky

### \$25 Million Co-op Generating Plant Planned

**T**HE East Kentucky Rural Electric Co-operative Corporation has announced it will construct a \$25 million steam electric-generating station at Burnside on Lake Cumberland. Upon completion it is expected the plant will produce 100,000 kilowatts; by 1975 it is hoped it will be enlarged to a 500,000-kilowatt capacity. Construction should begin this year, a company spokesman revealed, with completion of the first unit by 1964.

Increased power demands of the area

make the plant imperative, the company stated.

The East Kentucky Rural Co-operative serves 16 rural electric co-operatives in an 80-county area. The organization also operates the 110,000-kilowatt William C. Dale power station at Ford, 10 miles south of Winchester on the Kentucky river.

Senator Cooper (Republican, Kentucky) said he would urge the Rural Electrification Administration to give early approval to the \$25 million loan needed for construction of the Burnside plant.

## North Carolina

### Rate Modernization Asked

**L**AST month Carolina Power & Light Company asked the state utilities commission for a complete modernization of its rates. The changes proposed would lower some rates, increase others, and give a net increase to the company of gross revenues amounting to \$460,000, less than three-quarters per cent, based on 1959 business.

The changes would affect residential

users most of all, especially for water heating, space heating, and air conditioning. The new schedule of rates would replace three present schedules with one uniform rate for residential services. It would reduce the price for electric space heating from 1.9 cents to 1.5 cents per kilowatt-hour in the lowest rate bracket. The new water-heating rate would permit high-wattage, fast-heating models to be used at a rate of 1 cent per kilowatt-hour.

## THE MARCH OF EVENTS

Louis V. Sutton, company president, stated that the rate revisions were sought primarily to simplify and modernize resi-

dential rates and to promote a greatly increased use of the company's electric service.

### Tennessee

#### Little TVA's Planned

**I**N February more than 100 TVA boosters met in Athens, Alabama, to set up a provisional group for the development of a series of little TVA's on tributary rivers. The group, which calls itself the Tennessee River and Tributaries Association, is to be headed by Mayor Olgiati of Chattanooga, Tennessee. At the meeting one of the chief speakers was Governor

Ellington of Tennessee. He said "the tributary streams have scarcely been touched . . . this is the logical and inviting field for the extension of our own efforts and the program of TVA." He further indicated that he approved of the scheme to establish a series of little TVA's.

The creation of a regional association of this type was suggested some two years ago by Herbert D. Vogel, TVA chairman.

### Utah

#### Gas Rate Boost OK'd

**T**HE Mountain Fuel Supply Company has been granted a rate increase by the state public service commission which hikes natural gas rates by 4.45 per cent and gives the company \$1,215,136 more in annual earnings. Of this amount more than half will go to the federal government in income taxes. Mountain Fuel asked that the full increase be borne by firm rate customers, mostly home owners. However, the commission fixed the increase as ap-

plying equally to all customers since, it said, all would benefit from efforts to improve the company's reserves and pipelines, the reason behind the request for higher rates.

A fair rate of return was set by the commission at 6.3 per cent, a compromise between rival economic theories advanced by experts who testified for the commission staff and the gas company. In the past the rate has been 6 per cent. In this case, the company had asked for 6.5 per cent or more.

### Washington

#### Relocation Case Won by State

**T**HE supreme court of Washington has ruled that utilities must pay their own cost of relocating facilities in the path of freeway construction prior to June 30, 1959. It was a unanimous nine-judge decision and reversed a Clark county superior court ruling which held the state liable for the costs of relocation.

The action involved the relocation of Clark County Public Utility District facilities in order to make way for the

recently constructed freeway cutting through Vancouver. The high court ruled that public interest required the facilities to be removed and held under court rulings on similar actions the cost must be borne by the PUD. It was not clear what effect the ruling would have in connection with a law passed by the legislature in 1959. The act authorized the state to reimburse owners of utilities for relocation of facilities for freeways financed 90 per cent by federal funds and 10 per cent by state.





# Progress of Regulation

## *Trends and Topics*

### Guide to Valuation or Measure of Value

MANY courts have stated the principle that a commission may decide how much weight should be given to original cost, reproduction cost, and other evidence, and that a commission is not bound by any particular formula, in arriving at a rate base. It has been stated in Delaware (3 PUR3d 255, 8 PUR3d 286), Iowa (20 PUR3d 159), and elsewhere that valuation is not a mere matter of "mathematical" computation.

The term "measures of value" is commonly used to describe such evidence as original cost, reproduction cost, earning power, and sales value, which may be considered in rate base determination. A Pennsylvania court, for example, says that the commission is not required to give equal weight to each "measure of value," but must consider all "measures" (25 PUR3d 273, 279).

Use of the word "measure" does not imply adherence to a strictly applied yardstick. The dictionary definitions of "measure" include not only a unit of measurement (which may be exact), but also any standard with reference to which something is valued or estimated.

#### *Court Prefers "Guide" to "Measure"*

Although the term "measures of value" is well understood and is a convenient expression, we note some disapproval of the phrase, as in a recent New Jersey judicial decision (30 PUR3d 513), when the court said that "reproduction cost is one guide to fair value, but not a measure." The court supported its statement by reference to a New Jersey supreme court opinion (100 PUR NS 379, 391) containing the following: "Cost of reproduction is a guide but not a measure."

The Supreme Court, in the Dayton Power & Light Company case (3 PUR NS 279, 294), also said: "We are to remember that the cost of reproduction is a guide, but not a measure," citing its decision in the Los Angeles Gas & Electric Company case (PUR1933C 229). In that case, however, the statement was that reproduction cost was a "relevant fact" and that the court had not decided that it furnished an "exclusive test."

## PROGRESS OF REGULATION

Perhaps some thought will be given to semantics and meticulous wording of arguments and opinions in order to make the fine distinction, if any, between "measure" and "guide," but it is unlikely that the well-understood and convenient term "measures of value" will pass out of regulatory terminology.

### *Review of Current Cases*

#### Antitrust Violation Subordinate to Public Interest

THE United States Supreme Court has affirmed the Interstate Commerce Commission's grant of authority, to the Pennsylvania and Santa Fe railroads, to acquire joint control of the Toledo, Peoria & Western Railroad, an independent, short-line bridge carrier of through east-west traffic bypassing the congested Chicago gateway. The commission proceedings had been brought under § 5 (2) of the Interstate Commerce Act and represented a new and more complicated phase in the administration of that section, since it involved, in addition to the two applications approved, petitions by four other carriers for inclusion in the transaction under varying circumstances.

##### *Governing Standard*

A rival applicant, the Minneapolis & St. Louis Railroad, contended that the commission had improperly adopted the standard of separate and independent management of Western as the criterion governing the comparative merits of the rival plans and had thereby deprived Minneapolis of fair comparative consideration. The court pointed out that the commission's governing standard had been the public interest, although the commission had ultimately found that the public interest would be best served by Western's continued operation as a separate and independent carrier.

The commission had justifiably found that Minneapolis' plan unequivocally contemplated the disappearance of Western

as an independent and neutral connection for fifteen other carriers. It had found that certain features of the Minneapolis plan would be extremely harmful to other carriers, and that culmination of the plan would mean elimination of Western's office and the separation of its employees. Numerous witnesses had insisted that the separate and independent operation of Western under its present local management was a public necessity.

##### *Antitrust Laws*

The principal contention advanced by Minneapolis was that joint control of Western by Santa Fe and Pennsylvania would create a combination in restraint of commerce in violation of § 1 of the Sherman Act, and would lessen competition or tend to create a monopoly in violation of § 7 of the Clayton Act.

The court held that § 5(11) of the Interstate Commerce Act was a more recent and more specific expression of congressional policy than § 1 of the Sherman Act and § 7 of the Clayton Act. It relieved the acquiring carrier, upon approval by the commission of the acquisition, from the operation of the antitrust laws. Although § 5(11) did not authorize the commission to ignore the antitrust laws, it left little doubt that the commission was not to measure proposals for acquisitions by the standards of the antitrust laws.

The problem, said the court, was one of accommodation of § 5 (2) and the antitrust legislation. The commission remains

## PUBLIC UTILITIES FORTNIGHTLY

obligated to estimate the scope and appraise the effects of the curtailment of competition which would result from the proposed acquisition and consider them along with the advantages of improved service and other matters in the public interest to determine whether the acquisition would assist in effectuating the overall transportation policy.

### *National Transportation Policy Paramount*

Even though such acquisitions might otherwise violate the antitrust laws, the court continued, Congress has authorized the commission to approve them, if it finds they are in the public interest. As a factor in determining the propriety of railroad acquisition, the preservation of competition among carriers, although still a value, is significant chiefly as it aids in the attainment of the objectives of the national transportation policy.

The court concluded that the commission had fully estimated the scope and

appraised the effects of any curtailment of competition which might result from the acquisition and, after having done so, concluded that Santa Fe's and Pennsylvania's plan would not in any way result in significant lessening of competition.

The same conclusions were held applicable to Minneapolis' argument that the commission's approval of the acquisition of joint control violated § 10 of the Clayton Act, which prohibits a common carrier from having any dealings in securities of more than a specified amount with another corporation when the carrier has upon its board of directors a person who is at the same time a director of such corporation.

Section 10 of the Clayton Act is an antitrust law, pointed out the court, so that the commission is not bound by that section when passing upon an acquisition case brought under § 5(2) of the Interstate Commerce Act. *Minneapolis & St. L. R. Co. v. United States et al.* 4 L ed 2d 223.



## Territorial Grant in Rival Certificate Proceeding Upheld on Evidence of Ability to Serve

THE Virginia supreme court sustained a decision of the state commission awarding territorial authority in northern Virginia to Washington Gas Light Company rather than to Virginia Gas Distribution Corporation, a rival applicant. The territory is actually within metropolitan Washington, D. C., and is rapidly becoming urban.

Washington Gas Light Company distributes and sells natural gas in the District of Columbia, in adjacent portions of Virginia and Maryland, and in other metropolitan areas of Washington, D. C. Virginia Gas Corporation serves a number of counties and communities near the pipelines of Atlantic Seaboard Corpora-

tion by tapping or connecting its transmission lines with those owned by Atlantic.

Virginia Gas complained that the commission's action was not in the public interest. The company contended that it could furnish as good service in the allotted territory as Washington Gas; that the order would result in a wasteful duplication of facilities, smothering the economic advancement of Virginia Gas; and that the retail rates of Washington Gas were higher than those of Virginia Gas.

The court pointed out that the commission's action, under the law, is *prima facie* reasonable and correct and that it cannot be upset if it is supported by substantial

## PROGRESS OF REGULATION

evidence and does not issue from an abuse of administrative discretion. Ample evidence was found to support the order.

Washington Gas serves 370,000 gas meters, compared to 25,000 customers served by Virginia Gas. It has extensive facilities for gas production, storage, and interconnected distribution, and has ample trained personnel to serve the public needs of the area. The company is equipped to render a high grade of service. On the other hand, Virginia Gas has no production or storage facilities and has only a limited number of employees to serve its widely separated customers. Except for one area, the communities served by Virginia Gas are not connected by facilities owned or operated by the company, but are connected and served through pipelines separately connected with the main pipelines of Atlantic Seaboard.

### *Duplication Issue and Rates*

The court found no evidence that the allotment to Washington Gas would necessarily result in a wasteful duplication of facilities of Virginia Gas, or operate to

smother the latter's business. Nor was there any evidence that Virginia Gas could provide better service than Washington Gas.

The expansion of Washington Gas is more or less restricted to the metropolitan Washington area, while Virginia Gas has confined its service to the extension of pipelines to real estate developments.

Consumers of Virginia Gas pay lower rates than Washington Gas consumers, and the court recognized that rates are a factor relating to the public interest. But rates are only one of many factors to be considered, and then only in the light of the relative value of the service purchased. The basic test relating to the allotment of territory for development is the ability of the applicant to render adequate service under all the prevailing circumstances. There must be taken into consideration the area involved, the ability of the utility to serve the area normally and in emergencies, the different types of service rendered, and the character of service required. *Virginia Gas Distribution Corp. v. Washington Gas Light Co.* 111 SE2d 439.



## Tariff Restriction on Resale of Electricity By Co-operatives Upheld

THE Wisconsin commission denied the joint application of Adams-Marquette Electric Co-operative and Westfield Milling & Electric Light Company, for a change in the Wisconsin Power & Light Company's rule on resale of electricity. The rule prohibits a co-operative, which purchases electric energy from Wisconsin Power & Light Company for resale purposes, from reselling such energy to another electric company without Wisconsin's permission.

Wisconsin Power & Light serves co-operatives under a lower rate than the rate applicable to electric companies. The com-

mission observed that justification for the lower rate to co-operatives rests partly on social factors and partly on differences in load characteristics and required facilities.

A competing electric company opposed the proposed rule change on the grounds of discrimination. This company purchases electric energy from Wisconsin Power & Light Company under the company's resale rate. It opposed any arrangement whereby Westfield Electric Company could purchase Wisconsin Power & Light Company energy for resale at a lower rate from the co-operative. It now sells electric energy to another elec-

## PUBLIC UTILITIES FORTNIGHTLY

tric company. The co-operative would like to resell electric energy to the same company. Since the co-operative enjoys a lower rate it could afford to undersell the other company. Westfield objected to this possible "pirating" of customers.

### *Basis for Rate Difference*

The commission has previously determined that sufficient differences exist in furnishing service to co-operatives for resale and in supplying service to public utilities for resale to warrant different rates. Where a purchasing utility resells to another utility the load may be increased, but, in general, the characteristics of the load will not be substantially changed. On the other hand, if a purchasing co-operative were to resell to a utility,

the particular characteristics of the co-operative type of load that warranted a cheaper rate would become diluted by the addition of the less desirable type of load, from a cost-of-service standpoint. Furthermore, the combined load would no longer have the desirable characteristics that prevailed before loads were mixed.

Under these circumstances the commission believed that service under the lower rate should be restricted to service to co-operatives only. It therefore upheld Wisconsin Power & Light Company's refusal to permit the co-operative to resell to Westfield Milling & Electric Light Company. It cautioned, however, that each case must be judged on its own facts. *Re Adams-Marquette Electric Co-op. et al. 2-U-5124, February 2, 1960.*



## Rate Change Proposal Considered in Certificate Case

THE Federal Power Commission, reversing a presiding examiner, held that a proposed rate change need not be filed under § 4(d) of the Natural Gas Act before it may be considered in a § 7 proceeding to determine the public convenience and necessity for the initiation and extension of natural gas service.

A certificate proceeding under § 7, said the commission, while not the place finally to determine the propriety of a change in the form of rate schedules, may be, as in the instant case, a time when a change in

rate schedule becomes a relatively important factor in determining competitive applications. This does not mean, however, that the applicant need not comply with the filing requirements of § 4 of the act.

Nothing in the act precludes the commission from considering in a certificate proceeding a proposed change of rate, especially a proposed development rate, where such change is an integral part of the application. *Re St. Lawrence Gas Co., Inc. et al. Docket Nos. G-17500, G-17501, G-17579, December 16, 1959.*



## Water Rate Increase Upheld against Municipal Complaints

THE Pennsylvania commission approved a substantial rate increase filed by The Butler Water Company and dismissed complaints of the city of Butler and Butler township against the new rates. All rates were increased 15 per cent except those for public fire protection serv-

ice, which remain unchanged. The new rates will afford a rate of return of 5.65 per cent on a fair value rate base.

Fair value of the company's properties was fixed at \$3.6 million, based on original cost calculated at \$2,420,864 and reproduction cost of \$5,440,073, \$5,028,938,



## PROGRESS OF REGULATION

and \$4,810,701, computed respectively at recent spot prices, at the end of the preceding three years, and at the end of the preceding five years. The fact that the company is a going concern was considered in the fair value determination.

Materials and supplies were allowed in an amount equal to the average monthly balance in each year for the preceding five years. Contributions in aid of construction and customers' advances for construction were excluded from the rate base. Where the contract term had expired, unrefunded balances of customers' advances were required to be transferred, for rate-making purposes, to contributions in aid of construction rather than to other operating revenues. This transfer had previously been required for accounting purposes.

In estimating the cost of serving new customers added during the test year, the company properly applied the ratio of operating expenses to actual operating revenues for the test year, after reducing such

ratio from 48.84 per cent to 45 per cent in recognition of the fact that all operating expenses do not increase in the same proportion that revenues increase when customers are added. The cost of installing several cleaning pits on the transmission lines was eliminated from operating expenses on the ground that the expense was a nonrecurring item.

The cost of replacing the roof on a purification building, expected to be required every ten years, was amortized over a period of ten years for rate-making purposes. Exceptionally high frozen pipe maintenance during the test year was amortized over a three-year period. Also amortized over a three-year period was the cost of auditing local office records, considered necessary every three years. Rate case expense, including the unamortized balance of prior rate case expense, was amortized over a five-year period. *City of Butler et al. v. Butler Water Co. C. 17055, C. 17068, January 4, 1960.*



### Filings under Invalid State Minimum Gas Price Order Leave Filed Contract Price Unaffected

NATURAL gas producer rates filed pursuant to a state minimum price order were held not to change or affect a previously established contract rate even though the Federal Power Commission had accepted such state-required rates for filing. Implicit in the acceptance by the commission of the minimum price requirement was the validity of the state order.

To avoid the criminal sanctions of a Kansas order fixing minimum producer prices, a natural gas pipeline company had paid under protest more than its contract price in accordance with new rates which the producer had filed with the Federal Power Commission under the state order. This order was later held invalid in view of the exclusive jurisdiction of the Federal

Power Commission over producer rates for gas moving into interstate commerce. The pipeline thereupon brought action in a Kansas state court to recover payments in excess of the contract rate.

The court held that the pipeline was entitled to recover since the only lawful, filed rate was the contract rate, unaffected by the state order. The minimum price requirement, being invalid from its inception, never imposed any obligation on the pipeline to pay more than the contract price for Kansas-produced gas.

#### *State Court Has Jurisdiction*

Since the action to recover the excess payments was based on contract and not the Natural Gas Act, the state court ruled

## PUBLIC UTILITIES FORTNIGHTLY

that it had jurisdiction to decide the matter.

Nor would it be deprived of jurisdiction merely because the case required the court to interpret rate filings. The action of the court in interpreting rate filings would not constitute the setting of a rate (a matter for the Federal Power Commis-

sion under the Natural Gas Act), and a decision of the case would not involve the enforcement of any liability or duty created by the Natural Gas Act or any regulation or order thereunder (which would again concern federal authority). *Cities Service Gas Co. v. Columbian Fuel Corp. et al.* 155 A2d 879.



### Low Rate of Return Allowed Telephone Company Reflects Cheap Debt Financing

THE Wisconsin commission authorized a rate increase for Boscobel Telephone Company calculated to afford a rate of return of 4.01 per cent on a net investment rate base. While this level of return, standing alone, appears low, the commission considered it reasonable and just in view of the company's capitalization and the resultant high return on equity capital.

About 83 per cent of the company's capital is government-financed debt money borrowed at 2 per cent. At a rate of return of 4.01 per cent on the rate base, the return on the company's equity capital amounts to a relatively high 17.2 per cent. Because of the small equity ratio, the commission imposed a condition that no cash

dividends in excess of 6 per cent of par value annually may be paid on common stock until the common stock equity is increased to 40 per cent of total capitalization.

The company was not permitted to take annual amortization expense for property abandonment loss resulting from conversion to dial service. The commission cited the company's substantial earnings in recent years, together with the fact that the cost of new dial facilities, alone, would necessitate a rate increase. The amortization period for rate case expense was extended from three to five years. *Re Boscobel Teleph. Co.* 2-U-5226, January 5, 1960.



### Constitutional Ban against State Paying Utility Relocation Costs

THE Idaho supreme court has held unconstitutional a statute providing that the cost of relocation of utility facilities be considered a part of the acquisition of rights of way for the highway system to be paid by the state. The opinion reviews numerous other decisions on this subject.

The right of utilities to use public thoroughfares, said the court, cannot be regarded as a permanent property right. Streets and highways belong to the public and are held by governmental bodies and political subdivisions of the state in trust

for public use. Only a permissive right to their use, and no permanent property rights, can be gained by those using them.

#### *Common-law Rule*

Under the common-law rule, a utility placing facilities along streets and highways gains no property right and upon demand must move its facilities at its expense. The legislature is powerless to change the common-law obligation of utilities to pay the cost of relocation of facilities if there is a constitutional limi-

## PROGRESS OF REGULATION

tation upon the exercise of such power, the court said.

There was such a constitutional prohibition, banning the state from giving or loaning credit in aid of a private association or corporation. The fact that the utility's activities, in furnishing services, were public in nature and were devoted to the public use was held insufficient to remove payment of the relocation cost from the constitutional prohibition.

The state had not acquired and could not acquire the property of any privately owned utility, or any interest therein. Neither could it acquire control over the utility's officers, except in certain limited aspects through the commission. Nor did the state direct the acquisition and disposition of properties or control the financial transactions of privately owned utilities.

### *Reasonable Regulations*

On denial of petition for rehearing, the court summarized its position. The state Constitution, it said, recognized only the right of utilities to construct and maintain their lines within the state and connect the same with other lines, leaving to the legislature to provide regulations.

The legislature, with respect to telephone and telegraph companies and electric power companies, had enacted such reasonable regulations, granting to those utilities the right to the use of the public thoroughfares for the placement of their facilities, a right which was, nevertheless, defeasible, in such manner and at such points or places as not to incommode the public use of such thoroughfares, thereby recognizing that the sovereign and its political subdivisions hold the public thoroughfares in trust for use by the general public.

Since the sovereign, in the exercise of its police power, where convenience and necessity of the paramount public use so require, may cause removal of the facilities at the expense of the utility companies, and since the utilities' right to the use of the public thoroughfares, as to the manner and points and places of location of their facilities, is subordinate and defeasible, there is no taking of property of the utilities without due process in violation of either the state or the federal constitutions when the utilities are required to relocate their facilities at their own expense. *Idaho ex rel. Rich v. Idaho Power Co.* 346 P2d 596.



## Service Improvement Basis for Sale of Telephone Plant

THE Illinois commission authorized Midland Telephone Company to purchase the plant, system, and facilities of the Pocahontas Telephone Company. Midland proposed to incorporate the acquired property into its existing system. Evidence indicated that the subscribers of the Pocahontas Company were in favor of the transaction. Pocahontas desired to discontinue service, and Midland could render the service economically and efficiently by reason of its operations in other nearby areas.

The commission found that the service being rendered by Pocahontas was inadequate in many respects. This service was of the magneto type rendered on a part-time basis over circuits which were grounded and subject to frequent interruption. There were in the territory a number of potential users of telephone service whose request for service had been denied by Pocahontas because of lack of facilities.

Pocahontas had neither the resources nor the technical skill to improve and extend its facilities so as to render adequate

## PUBLIC UTILITIES FORTNIGHTLY

service to all who were ready, willing, and able to pay for it. On the other hand, the experience and resources of Midland were such that it could and would render ade-

quate service to all applicants in the area. Therefore, the commission concluded that the sale should be approved. *Re Midland Teleph. Co. et al. 46155, February 2, 1960.*



### Railroad Authorized to Sell Unused Real Property

THE New Jersey commission authorized The Delaware, Lackawanna & Western Railroad Company to sell some of its real property to General Foods Corporation for the sum of \$201,500. One objector unsuccessfully claimed that the sale price, based on a consideration of about \$6,500 per acre, was not the best price. After considering the testimony of the objector, his failure to offer sufficient evidence of his qualifications as an expert in the real estate field, or sufficient evidence of his personal dealings in the sale and purchase of real estate, his qualifications as a real estate expert were deemed unacceptable to the commission. Most important of all, according to the commission, the objector failed to establish that the properties concerning which he testified were in any way comparable with the property under consideration.

#### *Procedural Requirements*

The commission has adopted certain rules of procedure for compliance with the statute requiring its approval of sales by utilities. These rules have for their purpose a procedure whereby the utility will be required to show that the sale of the property will not adversely affect its ability to render adequate service, that the sale price is the best obtainable and represents the fair market value of the property.

The commission held that where, as a result of compliance with these rules by public notice and advertising, the utility receives no offer for the purchase of its property, it is then at liberty to negotiate a sale at the best price obtainable. That

price must represent the fair market value of the property being sold. The property must no longer be used or useful in the public service. It must also be shown that the sale will not adversely affect the company's ability to serve the public or otherwise prejudice the public interest.

In this case, the property was no longer used or useful in the utility business. Its sale would not adversely affect the company's ability to serve the public or otherwise prejudice the public interest. On the contrary, the proposed sale would enhance the company's business by increasing its freight revenues from service to a warehouse which the purchaser had agreed to erect on the premises. The commission also found that the negotiated sale price was the best obtainable, representing the fair market value of the property being conveyed.

#### *Failure of Opposition Proof*

At the hearing, the objector offered no proof of failure to comply with the commission rules, no proof that he offered any more to the railroad as a result of the advertising, nor that he would now offer more for the real estate. The commission indicated that it would not permit its hearings to become a public auction at which new offers could be submitted for the purchase of utility property after its rules have been complied with. It said that there must be some reasonable time limit to a transaction by a utility for the sale of property for which it has no further use. *Re The Delaware, L. & W. R. Co. Docket No. 5910-11756, January 20, 1960.*



## PROGRESS OF REGULATION

### "Holding Out" Determines Common or Contract Carrier Status

THE Arizona supreme court has affirmed a trial court judgment vacating a commission grant of contract carrier permits and has held that the evidence supported the court's findings that the particular motor carriers involved had participated so extensively in the area of public transportation, even without active solicitation or advertising, that they could properly be declared to have held themselves out to serve the public generally. Since the carriers had acted within the sphere of common carriers, the commission's grant of contract carrier permits was unlawful.

Under the doctrine of regulated monopoly, which is the basic law of the state, certain motor carriers are deemed to be so affected with the public interest and welfare that they should be regulated in the interest of the public while other carriers which are not so affected need not be subject to such stringent regulation. The essential distinction between a common and contract carrier, continued the court, is in terms of the holding out of the particular motor carrier to serve the public. This test is relevant and determinative because a motor carrier which holds itself out to the public generally has embarked upon activities which require regulation.

#### *Concepts of "Holding Out" and "Public"*

The concept of "holding out" cannot be limited merely to traditional solicitation or advertising because the legislative controls have been designed to cover not the methods utilized by the carrier to acquire business but rather its participation in the field in which it operates. The choice in the first instance, said the court, belongs to the particular motor carrier. No carrier is forced to become a common carrier, but when it holds itself out to serve the public

generally or when it in fact does so, it subjects itself to regulation. The concept of "the public" in this area includes those persons or companies which require or may require the particular type of service furnished by the motor carriers.

The method adopted by a motor carrier to serve its public generally may be through separate negotiated contracts. Although contract carriage presupposes separate contracts, the converse does not follow as a matter of logical law. A motor carrier may by means of contracts play such a substantial rôle in the particular field of carriage as to function, in essence, as a common carrier.

#### *Standing of Protesting Carriers*

The carriers which had been granted the permits challenged the standing of protesting carriers to institute a separate action for review of the commission's order. The permittees asserted that even if they were denied the right to operate as contract carriers, they would still be entitled to a certificate as common carriers, and that, accordingly, the protesting carriers had nothing personally to gain from a decision one way or another.

The court answered that the issue of whether the permittees, if common carriers, would be entitled to certificates for intrastate service was not before the court and would have to be raised first before the commission. It held that the protesting carriers should not be deprived of standing to institute the action for review merely because they might be unable successfully to resist alternative relief claimed by permittees in a subsequent proceeding.

#### *Supreme Court Review*

The court discussed the scope of review as applied to commission orders and a



## PUBLIC UTILITIES FORTNIGHTLY

trial court judgment. A separate action to review a commission order, it pointed out, is heard de novo. This permits the introduction and consideration of new evidence and allows the trial court to properly hold the commission order unreasonable on the basis of new evidence presented to it, although it may be apparent that the commission acted reasonably on the basis of the evidence presented prior to the new action. The constitutional provision contemplating an appeal from a commission order is satisfied by the statute authorizing such de novo review.

Although the superior court has author-

ity to review a commission order de novo in a separate action, the supreme court is not entitled to review the superior court's judgment in a like manner. It is limited to determining if there is substantial evidence in the record to support the findings of the lower court regarding the commission order. After considering such evidence, the supreme court refused to disturb the trial court's judgment that the commission's contract carrier permit grants were unlawful because the permittees had been operating as common motor carriers. *Arizona Corp. Commission v. Reliable Transp. Co.* 346 P2d 1091.



### Failure to Show Right of Review Brings Dismissal of Water Rate Appeal

THE Indiana supreme court dismissed an appeal from a commission order approving a rate schedule of the Indianapolis Water Company. Because of the appellants' defective procedure, the court's jurisdiction attached only for the purpose of dismissal. An attempt by the appellants to join the commission as a party appellee was held bad because the commission was not a party in interest.

Under Indiana law, the right of appeal rests solely in persons adversely affected by the commission's decision. The appellants in this case were not parties in the proceeding before the commission, nor did any of them intervene or otherwise participate in the administrative proceedings.

Furthermore, they failed to petition the court to be made parties appellant alleging facts to show a substantial interest in the determination of the case. They were apparently ratepayers, though this important fact was not alleged.

The assignment of errors, which is the initial pleading in a statutory appeal from a commission decision, failed to state the necessary jurisdictional facts. It did not show that the appellants had any substantial interest in the subject matter or that they were adversely affected by the commission order. The appellants failed to show affirmatively a right of review. *Martin et al. v. Indianapolis Water Co. et al.* 162 NE2d 709.



### Lease Subterfuge Ordered Discontinued

THE Louisiana commission issued a cease-and-desist order against a motor carrier's practice of leasing his truck to a statewide carrier on an individual job basis, in order to make hauls beyond his limited territorial authority. The lease ar-

rangement was resorted to whenever the limited carrier wished to transport a load beyond his authorized area.

Under the commission's leasing rules, the lessee must have exclusive possession, control, and use of the equipment through-

## PROGRESS OF REGULATION

out the term of the lease. The rule specifically states that "the practice of 'farming out' or leasing of a certificate or permit by an authorized carrier to an unauthorized person or carrier under the guise of a motor vehicular lease is expressly forbidden and prohibited."

It appeared to the commission that the lease in this case was precisely the sort of arrangement which the rule was designed to prohibit. If such arrangements were

permitted to continue, the administrative function of determining which and how many carriers are required by the public convenience and necessity could be usurped by any certificate holder who by the mere device of entering into one of these so-called lease arrangements could place as many carriers on the highways as he pleased. *Louisiana Pub. Service Commission v. Spurgin, Order No. 8008, Docket No. 8134, January 4, 1960.*



### Railroad Passenger Service Discontinuance

THE Connecticut commission granted the New York, New Haven & Hartford Railroad permission to discontinue passenger service between Waterbury and Hartford. The principle is well-established, the commission pointed out, that the system operated by every utility must be considered as a single entity and no portion thereof may be treated as an independent unit. A railroad may not operate only such portions as are presently profitable. The commission has to consider, in passing upon a request for discontinuance of passenger service, the extent to which the public requires the service as weighed against all other pertinent factors, includ-

ing the financial stability of the railroad. It must consider the overall effect upon the railroad as a statewide transportation system and the welfare of the entire state.

The evidence showed that the railroad had been incurring substantial annual losses on the route in question and was operating at a loss system-wide. The passenger service under consideration accommodated less than one per cent of the residents in the area. The greatest concentration of riders on the route occurred on a segment which could more economically be serviced by existing bus transportation. *Re New York, N. H. & H. R. Co. Docket No. 9819, December 28, 1959.*



### Commission Authority Limited with Respect to Permits for Diversion of Riparian Water

THE Wisconsin commission has no authority to issue permits for the diversion of the ordinary flow of a stream without the consent of riparian owners, the Wisconsin supreme court ruled in affirming a lower court judgment which overturned a commission order. The commission had granted permits for the diversion of part of the ordinary flow of a stream for agricultural purposes, holding that

since nonconsenting riparian owners would not be substantially damaged thereby, their consent was not necessary.

A Wisconsin statute authorizes the commission to issue permits for the diversion of nonsurplus water only upon the consent of riparian owners beneficially using the water, and empowers the commission to determine in any particular case what constitutes surplus water. The

## PUBLIC UTILITIES FORTNIGHTLY

statute defines surplus water as any water of a stream which is not being beneficially used. The commission interpreted the statute as conferring jurisdiction upon it to determine whether the diversion of nonsurplus water would damage riparian owners. The commission assumed that, in the event it found no damage, even though the flow was being beneficially used by riparian owners, a diversion of water could be permitted without the consent of such owners.

The court disagreed with this view of the commission's authority. The statute contemplates that a beneficial user is dam-

aged by the diversion of nonsurplus water and requires his consent. Once the commission determines that the flow is not surplus water because it is being beneficially used, said the court, it follows that any diversion of such nonsurplus water, as a matter of law, would injure the riparian owners and their consent would be necessary. The statute confers no authority upon the commission to determine or adjust the rights of riparian owners injured because of a proposed diversion of nonsurplus water. *Nekoosa-Edwards Paper Co. et al. v. Wisconsin Pub. Service Commission*, 99 NW2d 821.



### Public Convenience for Additional Water Well Unconcerned with Effect on Private Wells

THE issue of public convenience and necessity for a new well proposed to be drilled by a municipal water utility does not include the question of whether the well will adversely affect the well of a nearby water users' co-operative, the Wisconsin commission ruled. The commission refused to reopen a proceeding, in which a municipal plant was authorized to drill a well, in order to give a co-operative an opportunity to show that the proposed well would affect a well which it operated in serving 235 members.

The basic purpose of the requirement for a certificate to drill a well, where the applicant utility is already providing service, is to protect the ratepayer from the effect of an unnecessary or improvident expenditure upon future rates and upon

the efficiency of service, said the commission.

The requirement for a certificate in such circumstances does not involve issues unrelated to the financial consequences of the proposed installation upon the ratepayer. The grounds upon which a certificate can be refused are statutory and do not include that issue.

Furthermore, it was pointed out, since a court will not stop a municipal water utility from drilling a well which might adversely affect a privately owned well, because to do so would be contrary to existing Wisconsin law, neither can the commission. It does not have and should not attempt to exert such jurisdiction. *Re Village of Fontana-on-Geneva Lake, CA-3796*, December 29, 1959.



### Bus Service Certificated over Uncompleted Highway

A CERTIFICATE authorizing bus service over a new 143-mile highway was not invalid even though 34 miles of the highway was incomplete at the time of the certificate order, the Texas supreme court

ruled. A protesting bus company sought to have canceled such a certificate issued by the Texas Railroad Commission. The pertinent statute authorized the granting of a certificate but required consideration

## PROGRESS OF REGULATION

of the condition of the highways concerned and the amount of traffic already on them.

While the court observed that the statute contemplated an existing highway, it pointed out that the highway would not have to be complete and already in use before a certificate could be granted. This would construe the statute too narrowly. Construction must have proceeded far enough, however, to enable the commission in a general way to know the amount of traffic it would bear.

In this case there was an overall plan of the highway authorities for the construction of a 143-mile highway. The

route was certain, the towns to be served were known, the right of way had been acquired, and a substantial portion of the route had been completed. The commission had a right to conclude that the highway authorities would close up the incomplete segment of the highway within the foreseeable future and that it would be finished with the same workmanship and material as the other portions of the route.

The highway was held to be sufficiently completed to permit the issuance of a certificate under the statute, and the court, therefore, upheld the commission's order. *Texas R. Commission et al. v. Sabine-Neches Trailways, Inc.* 329 SW2d 80.

---

## Other Recent Rulings

**Monopoly and Competition.** The Colorado commission, in granting additional authority for airport limousine service, pointed out that the mere fact of a monopoly does not preclude the granting of additional authority to perform a similar service in the same area where the present certificate holder has been providing inadequate service. *Re Pikes Peak Automobile Co. Application No. 16937, Decision No. 53681, January 14, 1960.*

**Water Service Extension Denied.** The California commission denied a water utility's request to extend service to additional territory in view of the physical situation of the proposed area and the formation of a county district to provide service. *Re Dyke Water Co. Decision No. 58500, Application No. 40766, May 22, 1959.*

**Firm Service from Utility.** The California commission held that a water district desiring firm service when other

sources of water were not available had to pay the applicable tariff charges to a utility for its costs for stand-by service. *Re Tuolumne County Water Dist. No. 2, Decision No. 58510, Application No. 36646, May 22, 1959.*

**Rate of Return to Gas Gatherer.** In certificating a natural gas pipeline gathering system, the Federal Power Commission allowed a rate of return of 7 per cent where, with only 25 per cent equity capitalization, such rate would afford a 10 per cent return on the equity. *Re Texas Pacific Coal & Oil Co. et al. Docket No. G-16911 et al. December 17, 1959.*

**Ability to Finance.** A natural gas-distributing company seeking an order from the Federal Power Commission for a supply of pipeline gas was required to give satisfactory proof of its ability to sell its common stock for the project, where the applicant had proposed to sell half of its stock offering to its officers and directors



## PUBLIC UTILITIES FORTNIGHTLY

without showing their financial ability to buy. *Re Indiana Nat. Gas Corp. Docket No. G-17564, December 18, 1959.*

**Contract and Commission Rates.** The California district court of appeals pointed out that a private contract cannot circumvent commission rates and held that a highway contract carrier is entitled to recover the difference between rates fixed by contract and higher ones set by the commission. *Groom v. Holm et al. 1 Cal Rptr 410.*

**Declaratory Judgment.** The Delaware superior court held that an actual controversy which justifies resort to the Declaratory Judgment Act exists where one side makes a claim of a present, specific right, and the other side makes an equally definite claim to the contrary. *Clemente et al. v. Greyhound Corp. 155 A2d 316.*

**Erroneous Rate Classification.** The New York supreme court held that a shipper was entitled to recover the loss actually sustained and proved where an express company, with knowledge of the contents of the package, accepted a shipment of platinum and charged a rate applicable to a merchandise classification rather than a rate under its money classification. *W. R. Grace & Co. v. Railway Express Agency, 193 NYS2d 780.*

**Telephone Rate Increase.** A return of 4.58 per cent, resulting from rates proposed by a telephone company, was considered reasonable by the Indiana commission. *Re Georgetown Teleph. Co., Inc. No. 28329, November 20, 1959.*

**"Second Round Rebuttal" Excluded.** The Federal Power Commission sustained

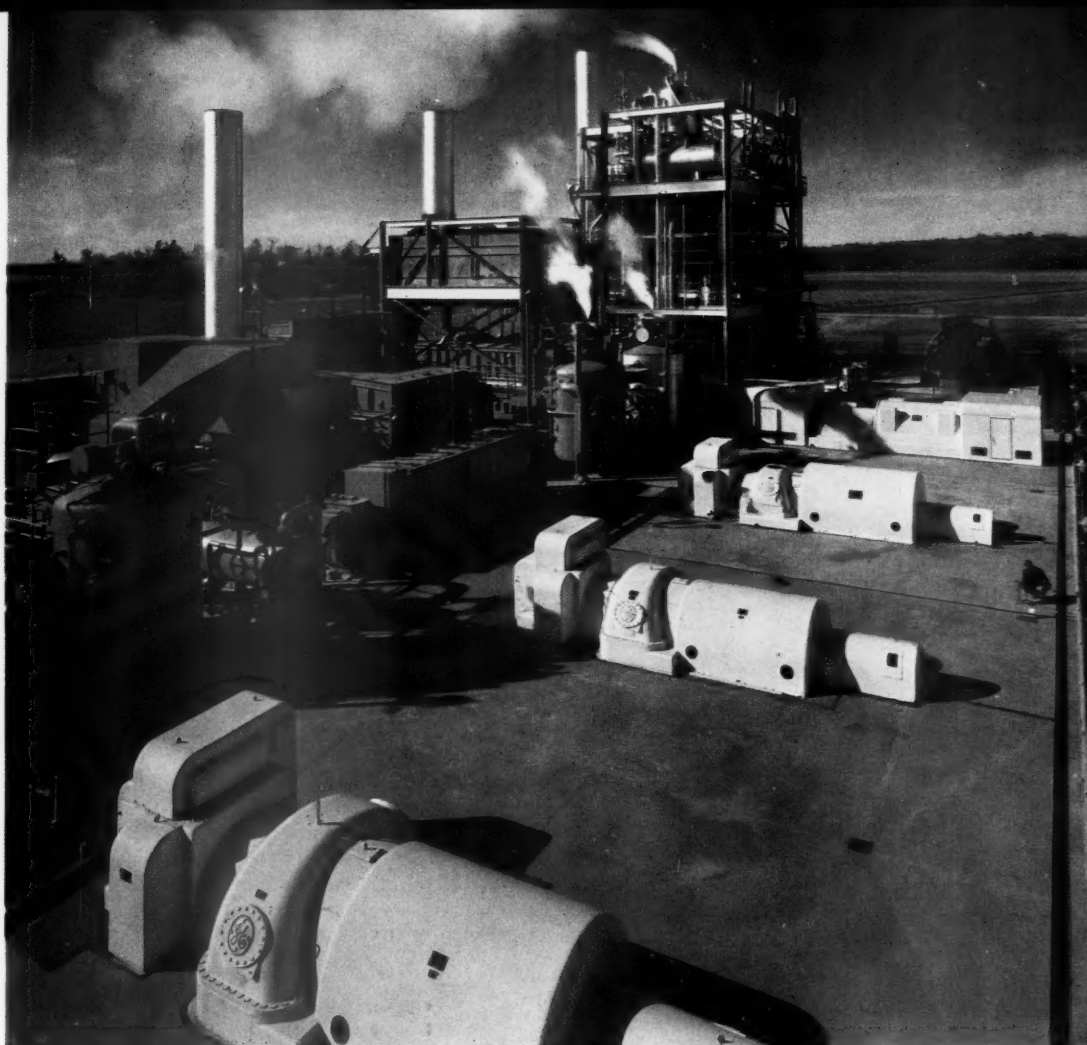
an examiner in excluding "second round rebuttal" evidence on an issue of the allocation of costs among various zones of a natural gas pipeline system, since proceedings should not be permitted to go on indefinitely. *Re Tennessee Gas Transmission Co. Docket No. G-11980, December 10, 1959.*

**Tentative Water Rates.** Tentative rates calculated to afford a rate of return of 5.5 per cent, as requested, on a net book value rate base were authorized by the Wisconsin commission for a municipal water utility pending completion of a large construction program and submission of a report of next year's operating expenses. *Re Village of Menomonee Falls, 2-U-5273, December 21, 1959.*

**Telephone Rate of Return.** The Wisconsin commission allowed a small telephone company a rate of return of 6.49 per cent on a net investment cost rate base. *Re Milton and Milton Junction Teleph. Co. 2-U-5240, December 29, 1959.*

**Service Company Changes.** In the interest of economy, and subject to permanent authorization after operating data can be studied, the Securities and Exchange Commission temporarily authorized a service company, subsidiary in an electric holding company system, to adopt organizational and operating modifications including the election of officers without regard to interlocking positions in the system, and the payment of salaries of officers and employees of the holding company with equitable allocation of such expense to the parent and other system companies. *Re New England Power Service Co. File No. 37-7, Release No. 14128, December 30, 1959.*





COUGHLIN POWER STATION CENTRAL LOUISIANA ELECTRIC COMPANY, INC. 105,000 kw—5 Units

## Power in Louisiana . . .

Coughlin Power Station is an outstanding example of how major emphasis on plant expansion can anticipate economic growth. The territory served by Central Louisiana Electric Company, Inc., is in a dynamic growth period due to extensive petroleum resources, cotton, sugar, wood products and food processing activities. The company, foreseeing the operating economies of larger generating units, is expanding the capacity of Coughlin well beyond the immediate requirements of the area. Thus, in only ten years the size of units at Coughlin has steadily increased from the original 7,500 kw machines. The newest unit will be rated at 100,000 kw and will go into operation in 1961. This will give the company over 275,000 kw of system capacity with which to serve a territory with a big and bright future.



FULL COLOR BROCHURE outlining the scope of Sargent & Lundy services will be sent on request.

**SARGENT & LUNDY  
ENGINEERS**

140 SOUTH DEARBORN STREET, CHICAGO 3, ILLINOIS

*If your problem concerns* **UTILITY RATES,**  
*you will want these two companion volumes*

**Preparing  
for the  
Utility  
Rate Case**

by Francis X. Welch,  
B. Litt., LL. B., LL. M.



320 pages  
Price \$10

**A**MONG the values of this compilation of experiences taken from the records of actual rate cases, are the reviews of methods and procedures, which have been found helpful in —

- ▶ simplifying and speeding up rate case groundwork
- ▶ saving time and expense of participants
- ▶ cutting down "lag losses"
- ▶ increasing the confidence of investors

*all of which are in the public interest.*

The volume does not offer a program of standardized procedures for rate case preparation, but reviews the plain and practical methods that have been used.

The chapter headings indicate the coverage:

The Birth of the Utility Rate Case  
Public Relations and the Rate Case  
The Birth of Utility Company Rate Opposition  
The Nature of the Utility Rate Proceeding  
Events Leading Up to the Rate Case  
Selection and Function of the Attorney  
The Grand Strategy of the Rate Case  
The Mechanics of Rate Case Preparation  
Proof of the Rate Base  
The Completed Rate Base—Overheads, Land, Depreciation, Working Capital  
Completing the Rate Base; Working Capital  
Operating Expenses  
Operating Expenses, Continued—  
Annual Depreciation  
The Rate of Return  
Rate Adjustments—Allocations

*Never before has anyone attempted to bring together, in relatively small compass, a comparable exposition and guide.*

**Conduct  
of the  
Utility  
Rate Case**

by Francis X. Welch,  
B. Litt., LL. B., LL. M.



400 pages  
Price \$12.50

**T**HIS companion volume deals with those procedural matters which come after the preparatory stages of the rate case. It presents for the first time the practical problems of conducting the case —

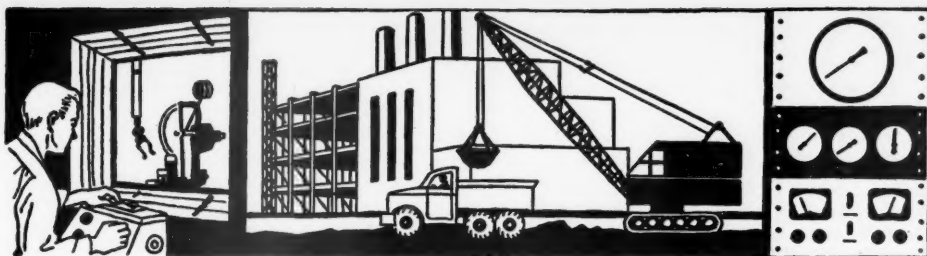
- ▶ filing the application
- ▶ introducing the evidence
- ▶ examining the witnesses, etc.

In fact, it explains the time-saving and effective ways of making the step-by-step progress toward the rate decision, including information concerning the requirements for appeal and review.

Here are the chapter headings:

Assisting In the Rate Case Preparation  
The Formal Approach to the Rate Case  
The Attorney-Client Relationship  
Preparing The Petition or Application  
Preparing the Testimony  
Parties—Rate Complaints—Rate Investigations  
Negotiations Before Hearing—  
Prehearing Proceedings  
Setting and Opening The Hearing  
Examination In Chief  
Cross-Examination and Rebuttal  
Evidence in a Rate Case  
The Case for Complainants or Rate Increase Protestants  
The Expert Witness  
Motions, Interlocutory Procedures, Arguments, Briefs and Decisions  
Appeal and Review

**PUBLIC UTILITIES REPORTS, INC., Publishers**  
**NEW BOOK DEPARTMENT**  
**SUITE 332, PENNSYLVANIA BUILDING**  
**425 THIRTEENTH STREET, N. W.**  
**WASHINGTON 4, D. C.**



# Industrial Progress

## EI Reports on Nuclear Power Progress

AMERICA'S investor-owned electric utility companies have in progress 26 nuclear projects involving million dollars of utility expenditures and aggregating 1,800,000 kw their program to achieve economically competitive nuclear power in the United States by the late '60's.

Six different reactor concepts are being built, designed, or investigated in the utility program that involves electric utilities individually and collectively in projects ranging from research and study groups to operation of plants already producing power.

These and other facts about the electric companies' nuclear activities were disclosed recently before the Joint Congressional Committee on Atomic Energy by Elmer L. Lindseth, Chairman of the Edison Electric Institute Committee on Atomic Power.

Three nuclear power plants in which investor-owned electric companies are participants are in operation; 11 company-sponsored projects are under construction, design or contract; and three are in the planning stage, of which two are in active negotiations," said Mr. Lindseth, who is president of The Cleveland Electric Illuminating Company. Electric companies are also participating in other nuclear research, development and study projects.

Mr. Lindseth said that developments during the past year reaffirm the Institute's belief that emphasis should continue to be placed on research and development with actual construction carried out at a pace consistent with research achievements. He also called for intensified elementary technology research and engineering.

Large-scale reactors of any type generally should be installed only when

there is reasonable assurance that a sponsoring utility system can produce electric power from the proposed nuclear plant substantially competitive with power generated from a similarly sized conventional unit in the same area," Mr. Lindseth said.

He urged a continuing reduction in the Federal government's role in commercial nuclear power. "Our country's nuclear power policy objectives will be attainable at minimum cost to the taxpayer," he said, "when the cost-cutting incentives and initiative of industry are utilized to their maximum."

Mr. Lindseth pointed out, as he did at last year's hearing, that "healthy, ultimate utilization of atomic energy will take place with electric power companies, manufacturers of equipment and other interested industries working together, without the special forms of assistance and the extent of direction by government which presently exists."

In discussing the present status of the nation's nuclear power program, Mr. Lindseth said that "progress to date in the United States program of civilian nuclear power development has been both substantial and adequate on the basis of all domestic considerations. And in the light of recent developments abroad, it also is clear that our progress is adequate to meet the requirements of friendly nations there."

The role of the utility industry, according to Mr. Lindseth, should be to construct, own and operate all large-scale power reactors. "In a truly free enterprise system, as a matter of principle, there is no proper place for government ownership of commercial-type power reactors," he said.

Describing the progress during the past year on the electric company program, Mr. Lindseth pointed out that the 180,000-kilowatt Dresden nuclear power plant attained initial criticality in October. Consumers Power Com-

pany announced during the year that it will build a 50,000-kilowatt high-power density, boiling water reactor plant for 1962 operation.

In addition, Mr. Lindseth said that the Atomic Energy Commission signed contracts with Philadelphia Electric Company; Carolinas Virginia Nuclear Power Associates and East Central Nuclear Group-Florida West Coast Nuclear Group. The two latter groups plus Northern States Power Company and Pacific Gas & Electric Company applied for construction permits during the year. Saxton Nuclear Experimental Corporation was granted a construction permit by the AEC for its 5,000-kilowatt water-type reactor early this year. In 1960, the 180,000-kilowatt Dresden plant and the 134,000-kilowatt Yankee plant are scheduled to go into operation. Construction of the 100,000-kilowatt Enrico Fermi plant is expected to be essentially complete by October 1960. Insertion of fuel and low-power testing will begin shortly thereafter. About one year of low- to full-power testing is scheduled.

## EI Announces Revised Edition Of Lighting Demonstration Catalogue

TO meet increased demands for promotional demonstration equipment, Edison Electric Institute's Commercial Lighting Committee has issued a revised edition of "A Catalogue of Lighting Demonstration and Exhibit Materials."

The Catalogue will aid electric utilities in planning effective lighting presentations. Many pieces of equipment available for use in group lighting demonstrations and exhibits are described and illustrated.

The Catalogue will prove especially helpful to anyone wishing to build similar demonstration equipment. In

(Continued on page 30)

many cases the illustrations and accompanying dimensional information are supplemented by detailed drawings which would be very helpful in construction of the equipment.

In most cases the materials listed in the Catalogue may be rented or purchased outright, but in some instances, utilities have designed and fabricated their own demonstration units.

Price of the Catalogue to EEI member companies is \$2.00, to non-member and foreign companies \$3.00. Orders should be addressed to Edison Electric Institute, Sales Division, 750 Third Avenue, New York 17, N. Y.

### G-E Re-Assigning Atomic Products Division To Electric Utility Group

GENERAL Electric President Robert Paxton announced recently that the company was re-assigning its Atomic Products Division to its newly-formed Electric Utility Group, headed by Clarence H. Linder, vice president and group executive. The Division was previously a part of the Company's Electronic, Atomic and Defense Systems Group.

Mr. Paxton said the change was being made with intention of bringing the Atomic Products Division into closer contact with the electric utilities, which are its logical present and future customers. "Atomic power plants are going to become a very important factor in industry, particularly for the utilities. General Electric intends to be so organized as to render these customers maximum service when that day comes—and it's coming sooner than a lot of people realize," he said.

The Atomic Products Division, headed up by Lyman R. Fink, General Manager, is divided into two departments. The first is the Atomic Power Equipment Department located in San Jose, California, a completely Company-financed organization directed to the design, development, manufacture and marketing of peacetime atomic power equipment. The products and services include reactors for power generation and marine propulsion, research and test reactors, fuel element fabrication, reactor subsystems and auxiliaries, and special engineering studies, and applied research services.

The second is the Hanford Atomic

Products Operation located in Richland, Washington. This is a government-owned facility operated by General Electric Company for the Atomic Energy Commission. While the primary purpose of the Hanford Operation is the production of plutonium, the Hanford laboratories are involved in nearly every phase of search and development work related to atomic energy. These include reprocessing, radiation damage studies, isotope production and reactor research.

One former department of the Atomic Products Division, the Aircraft Nuclear Propulsion Department will continue to be a part of the Company's Electronic, Atomic and Defense Systems Group, Mr. Paxton said, because its business is chiefly in the area of defense.

This department is located in Cincinnati, Ohio, and is operated by General Electric Company under contract to the Air Force and the Atomic Energy Commission. The efforts of the Department are directed to the design and development of an advanced type of high performance, nuclear power plant for aircraft applications.

Mr. Paxton also noted that the assignment of the Knolls Atomic Power Laboratory to the Electric Utility Group's Turbine Division remains unchanged.

*This advertisement is neither an offer to sell, nor a solicitation of an offer to buy any of these Securities. The offering is made only by the Prospectus.*

NEW ISSUE

February 26, 1960

**\$12,000,000**

## Public Service Company of Oklahoma

### First Mortgage Bonds, Series H, 5%

Due February 1, 1990

**Price 98.75% and accrued interest**

*Copies of the Prospectus may be obtained from such of the undersigned as are registered dealers in securities in this State.*

**Glore, Forgan & Co.**

**Alex. Brown & Sons**

**Riter & Co.**

**Fulton, Reid & Co., Inc.**

**Johnston, Lemon & Co. Robert Garrett & Sons Stern Brothers & Co.**

### 1960 NEMA Electric Water Heater Promotion Underway

OPTIMISM is the keynote of the 1960 electric water heater promotion campaign as the Electric Water Heater Section of the National Electrical Manufacturers Association starts its second year of intensive publicity activity. Over 750,000 electric water heaters are expected to be sold this year, according to NEMA.

One of the reasons for this optimism is the fact that the 1960 promotion is expected to generate even greater consumer interest and utility participation than the 1959 drive which saw 115 utilities tie-in local area promotions with the national campaign. The 1960 theme is, "Electricity—Your Better Way to Heat Water."

Designed especially to create consumer acceptance of electric water heaters, the 1960 campaign will feature an intensive consumer and trade education program plus a drive to spark utilities to increased activity on behalf of water heater sales.

At the utility level, the Electric



Water Heater Section will continue to be a utility activity. Utilities will be contacted and provided tools for local-area water heater campaigns.

The 22-page plan book offered to utilities includes an outline of the Section's program and reasons why utilities should sponsor their own local programs. New ads and display ideas suggest outlines for utilities', dealers' and distributors' promotions. A promotion checklist offers ideas for contests, incentive-bonus programs, meetings and presentations, tie-ins with banks, builders, retailers, and other groups, to help organize a local electric water heater program.

The plan book also has a copy idea which suggests copy for newspapers, television and radio—for example, on installation and operation features.

Water heating facts are also presented to point out average hot water requirements, quick-recovery water heater output, average family hot water consumption and other pertinent data.

Case histories of successful utility water heater promotions which resulted in greatly increased sales and building are presented in detail. The plan book also carries an electric utility honor roll of utilities that ran 1959 water heater promotions and an honor roll of electric water heater manufacturers who are members of the IEMA Electric Water Heater Section.

Water heater way

**B&W Announces Organizational Changes In Atomic Energy Division**  
AJOR changes in the organization of The Babcock & Wilcox Company's Atomic Energy division in Lynchburg, Va., have been announced by Dr. L. M. Currie, vice president in charge of the division.

Under the reorganization three new departments have been created. They are a Development department headed by M. C. Edlund, a Contract department under R. P. Grimes, and a Proposition department under the supervision of D. A. Plunkett. At the same time, W. M. Breazeale has been appointed senior technical advisor.

Dr. Currie said that the changes were made "after long and careful study, to consolidate our experience and align our capabilities with the type of nuclear business we expect in the future."

The Development department will embrace the functions of reactor physics, critical experiments, mathematics,

chemistry, materials, and advanced reactor design.

Contract department responsibilities will range from planning and control to contract services for all of the company's nuclear power projects. These include such projects as the N. S. "Savannah," world's first atomic powered merchant ship, and the Consolidated Edison Thorium Reactor being built for the Consolidated Edison Company of New York at Indian Point, N. Y.

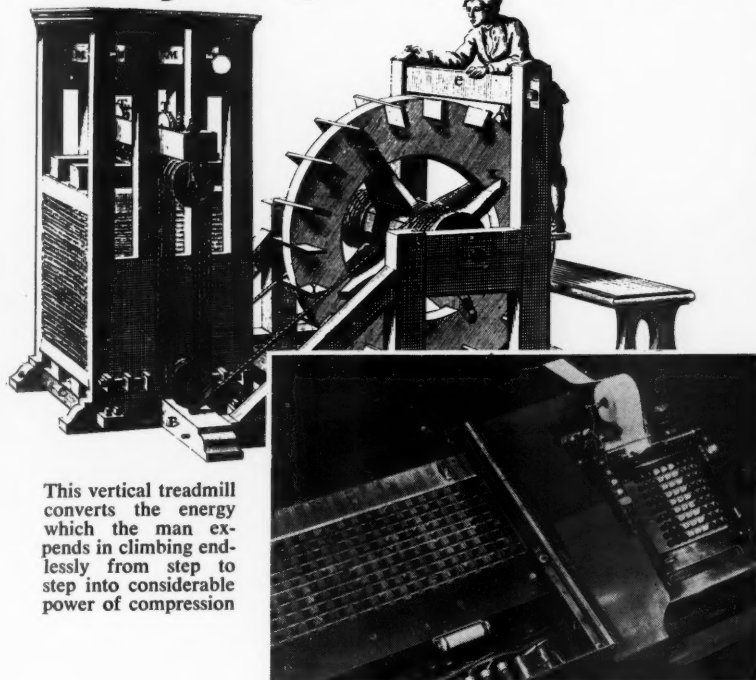
Sales liaison, market surveys, pricing, project proposal preparation, and special customer relations activities will be handled by the Proposition department.

As senior technical advisor, Mr. Breazeale will be responsible for certain technical functions which cross departmental lines, and will represent the division at meetings with customers and regulatory bodies.

Heading up the division under Dr. Currie are W. T. Moore, manager,

(Continued on page 32)

## many steps vs. "ONE"



This vertical treadmill converts the energy which the man expends in climbing endlessly from step to step into considerable power of compression

This exclusive R & S service is made possible by this machine of our invention

It is a treadmill to prepare rate bill analyses with your own staff and facilities, compared with the compression of time and effort achieved by the "One Step" Method.

All the work is done in our office, your staff is free of detail, and most important, "One Step" Analyses give you month-to-month reports when the data is still fresh and useful.

Invaluable to rate engineers in checking present trends and plotting future ones. And, the reports are strong supporting source material in presenting rate cases.

May we send you the free booklet describing the "One Step" Method of Bill Analysis? Simply write Dept. U-1

# RECORDING & STATISTICAL CORPORATION

100 Sixth Avenue • New York 13, N. Y.



who operates from the company's New York headquarters, and J. W. Landis, assistant manager, who is located in Lynchburg. Their functions remain unchanged.

### New International TD-25 Catalog

THE International TD-25 diesel crawler tractor—largest and most powerful crawler manufactured by International Harvester Company's Construction Equipment Division—is the subject of a three-color, 24-page catalog just issued. The catalog depicts highlights of the torque converter and gear drive versions of the 230-engine-horsepower TD-25.

Among the many outstanding features of the new International heavy-weight crawler are planet-power steering, Dura-Rollers with 1,000-hour lubrication intervals, a lubrication oil cooler, a dry-type air cleaner filtering out 99.9 per cent of impurities, a heavy-duty radiator guard and a large capacity radiator to provide ample cooling.

Write International Harvester Company, 180 N. Michigan Avenue, Chicago 1, for catalog CR-791-I.

### M. W. Kellogg Announces Construction Of A New Power Piping Manufacturing Plant Williamsport, Pa.

THE M. W. Kellogg Company of New York, a subsidiary of Pullman Incorporated, will begin construction immediately of a new power piping manufacturing plant in Williamsport, Pa., J. M. McAneny, general manager of Kellogg's Power Piping Division, announced recently. He stated that completely equipped metallurgical and welding laboratories will be included, and that a modern, one-story office building will be constructed at the site to become the new headquarters of the Power Piping Division. These new facilities will represent an approximate investment of 4 million dollars for Kellogg.

Mr. McAneny said, "Our new 139,000 sq. ft. plant has been designed specifically for efficient manufacture of power piping systems. It will provide our clients in the electric, nuclear power and process industries with the best piping systems available for their high temperature-high pressure requirements."

Power piping systems, the products Kellogg will manufacture in Williamsport, are built of both carbon and

alloy steels. Wall thicknesses of many systems run greater than 3 inches and have 12-inch diameters. A one-foot section of power piping weighs about 500 lbs. Only such piping can withstand the terrific steam pressures and temperatures used in electric power plants today.

"Our new metallurgical and welding laboratories will include all basic equipment and be staffed with the necessary personnel to back up manufacturing by continuing the search for better power piping materials and improved manufacturing procedures, with special emphasis on new methods and new steels, but always aimed toward greater economy and a better product," said Mr. McAneny.

The new office building will be central headquarters for the Power Piping Division. Engineering, procurement, estimating, field erection services, administration and management will all be located there. Sales offices will remain for the immediate future at 711 Third Avenue, New York City. Construction of the plant, laboratories and office building will begin in March, and the production of power piping systems is scheduled to begin early this Fall. M. W. Kellogg will act as its own general contractor for the project.

### \$58,600,000 Budget by VEPCO For Construction in 1960

THE board of directors of the Virginia Electric and Power Company recently approved a 1960 construction budget of \$58,600,000.

The 1960 construction figure is some \$11,500,000 more than the \$47,016,000 spent on new construction last year. Vepco President A. H. McDowell, Jr., said the largest items in this year's budget are for the new additions to the company's Portsmouth and Possum Point power stations.

Mr. McDowell added that the construction program this year calls for \$21,858,000 to be spent for generating facilities; \$30,300,000 for electric transmission and distribution systems; \$4,239,000 for mains, production equipment and service facilities for gas operations on the Peninsula and at Norfolk, and \$2,203,000 for service buildings, shops and store-rooms and other facilities.

Approximately \$7,350,000 of the money allocated for generating facilities will be spent this year on the construction of the fourth unit at the Possum Point power station. The Portsmouth station will require \$6,267,000 for work on its fourth unit.

Both units are slated for completion in the spring of 1962 and each will have a capability of 200,000 kilowatts.

The company expects to complete the latest addition to its Chesterfield power station in May of this year. Constructed at a cost of approximately \$21,500,000, the 170,000 kilowatt unit is the fourth unit to be installed there.

### Northern Illinois Gas Plans To Spend \$180,000,000 in 5 Years

NORTHERN Illinois Gas Company reports that construction expenditures for 1959 totaled nearly \$41 million, almost double that spent in 1958. The major project was the 140-mile East Dubuque to Des Plaines pipeline costing \$10,500,000, which is delivering 50 million cubic feet of natural gas per day from Northern Natural Gas Company facilities this winter.

During the next five years (1960-64) expenditures are estimated at \$180 million. This includes about \$50 million for further development of underground storage.

### James F. Simes Joins Ebasco As Consultant to Gas Companies

JAMES F. SIMES has joined Ebasco Services Incorporated as a general consultant to gas companies, it was announced by Harold H. Scaff, vice president in charge of the firm's Management Consulting Division.

Mr. Simes has had more than twenty years' experience in the utility industry. Before joining Ebasco he was manager of the planning and development department of the New Jersey Natural Gas Company. Previously, he was assistant general manager of Compania Chilena de Electricidad, operating subsidiary of American & Foreign Power Company, Inc. in Chile, and also served as division engineer heading the gas planning division of the Consolidated Edison Company of New York, Inc.

Mr. Simes' appointment reflects intensified expansion of Ebasco's activities in the field of gas company operations.

While he was with New Jersey Natural Gas Company, Mr. Simes organized and managed its planning and development group. His experience includes the analysis of all phases of utility company operations; the organization and direction of utility planning functions, including forecasting, assistance in policy formation; and the preparation of data for regulatory bodies; as well as testimony before the Federal Power Commission.

## Baltimore Gas & Elec. Plans Record Outlays in 1960

ALTIMORE Gas & Electric Company expects to spend a record \$50 million on construction during 1960, according to an announcement by J. Theodore Wolfe, president. The company spent \$37,943,000 in construction last year. Construction expenditures for the next five years are estimated at more than a quarter billion dollars, according to Mr. Wolfe.

## Datamatic Creates Corps Of Marketing Specialists

CREATION of a corps of highly skilled industry specialists to further step up customer service in major data-processing markets was announced recently by Walter W. Finke, president, Datamatic Division of Minneapolis-Honeywell.

He said the first appointments to Datamatic's group of marketing specialists include: Herbert J. Mulqueen, formerly assistant to the executive vice president of Associated Hospital Service of New York, special representative for the insurance industry; and John J. O'Neill, special representative, public utility industry.

"The marketing specialist corps has been brought to full strength in the near future will include data-processing experts for all major industries, as well as important military and scientific fields," Finke said. "Each outstanding in the field he represents. The job of the specialists will be to bring the kind of topnotch service to users and potential users of Honeywell data-processing systems that can be provided only by people with an intimate knowledge of both data-processing systems and the industries they serve."

Mr. O'Neill, following completion of graduate work in physics and mathematics at Drexel Institute of Technology and Brooklyn Polytechnical Institute, helped to bring one of the very first commercial data-processing applications ever made into being. Following this, he worked for more than five years as a resident analyst, senior analyst and systems consultant on a wide range of computer applications, including the utility field. He was EDP methods supervisor for three years at Pure Oil Company, Chicago and while there, he set up and taught a basic course in electronic data-processing at Northwestern University.

## New Fabric Coating Improves Hodgman Lineman's Suit

NYLON lineman's suit No. 1212 made by Hodgman Rubber Company especially for the utilities field is said to outperform all others for strong, rugged protection. Hodgman's customary outstanding features are now combined with Horcohyde, the first new development in fabric coating in years. The Horcohyde coating has a soft, flexible leather-like finish that is unaffected by coldest weather yet has

extremely high abrasion resistance and is unaltered by gas, oil, grease and sun. This coating on the tear resistant special nylon of the suit assures years and years of service under the roughest working conditions. For increased safety the suit is made in high visibility bright yellow.

Hodgman's lineman's suit No. 1212 comes in sizes small, medium, large and extra large. For a complete catalog write to Hodgman Rubber Company, Framingham, Massachusetts.

*These shares have not been and are not being offered to the public.  
This advertisement appears only as a matter of record.*

NEW ISSUE

March 4, 1960

# 600,000 Shares Consolidated Edison Company of New York, Inc.

Cumulative Preferred Stock, 5¾% Series A  
(\$100 par value per share)

Certain institutional investors have entered into commitments to purchase the above shares subject to the terms and conditions set forth in the Purchase Agreements. This financing was arranged by the undersigned.

## The First Boston Corporation

Investment  
Securities



NEW YORK BOSTON PITTSBURGH CHICAGO  
PHILADELPHIA SAN FRANCISCO CLEVELAND

# PROFESSIONAL DIRECTORY

• This Directory is reserved for engineers, accountants, rate experts, consultants, and others equipped to serve utilities in all matters relating to rate questions, appraisals, valuations, special reports, investigations, financing, design, and construction.

*64 years of leadership in property valuation*

**The AMERICAN APPRAISAL Company**

Home Office: Milwaukee 1, Wisconsin

Offices in 18 cities coast-to-coast

## BLACK & VEATCH CONSULTING ENGINEERS

Electricity, Natural Gas and Water Utilities  
Production, Transmission, Distribution

Reports, Design, Supervision of Construction  
Investigations, Valuation and Rates

1500 MEADOW LAKE PARKWAY, KANSAS CITY 14, MISSOURI (SINCE 1915)

## BONI, WATKINS, JASON & CO., INC.

*Economic & Management Consultants*

37 Wall Street  
New York 5, N. Y.

919 Eighteenth St., N.W.  
Washington 6, D. C.

Rate Cases

Management and Market Studies

Rate of Return Analysis

Cost of Service Determination

Economic and Financial Reports



## BURNS and ROE, Inc.

**ENGINEERS • CONSULTANTS • CONSTRUCTORS**

Engineering and Design • Research and Development • Construction •  
Electric, Steam and Hydro Plants • Aeronautical and Missile  
Facilities • Surveys • Nuclear, Chemical and Industrial Plants •  
Transmission • Distribution • Reports

**160 WEST BROADWAY, NEW YORK 13, NEW YORK**  
Washington, D. C. • Hempstead, L. I. • Santa Monica, Calif.

## Commonwealth

**SERVICES INC.** Management and Business Consultants

300 Park Ave., New York 22, N. Y., MUrray Hill 8-1800

1 Main St., Houston 2, Texas, CApital 2-9171

1612 K St., N.W., Washington 6, D. C., STerling 3-3363

**ASSOCIATES INC.** Consulting and Design Engineers

Commonwealth Building, Jackson, Mich., STate 4-6111

*Mention the FORTNIGHTLY—It identifies your inquiry*

PROFESSIONAL DIRECTORY  
(continued)

**DAY & ZIMMERMANN, INC.**


**ENGINEERS & CONSTRUCTORS**

NEW YORK

PHILADELPHIA

CHICAGO

Design — Electric Line Construction — Management — Reports and Valuations

 **STANDBY**  
**PEAK SHAVING**  
**100% TOWN or PLANT SUPPLY**  
**DRAKE & TOWNSEND**  
Incorporated  
11 WEST 42ND STREET, NEW YORK 36, N. Y.

- Design
- Engineering
- Construction

**EMPIRE GAS  
ENGINEERING CO.**  
P. O. Box 1738.  
Atlanta 1, Georgia

LP-gas  
peak shaving  
and stand-by  
plants for  
municipalities  
• industry  
• design  
• construction



**Ford, Bacon & Davis**

VALUATION  
REPORTS

**Engineers**

CONSTRUCTION  
RATE CASES

NEW YORK • MONROE, LA. • CHICAGO • SAN FRANCISCO

**FOSTER ASSOCIATES, INC.**

Rate Cases • Cost of Service and Other Regulatory Methods

Rate of Return Analyses • Rate Design

Natural Gas Field Price Problems • Economic and Financial Reports

1523 L STREET, N.W.  
WASHINGTON 5, D. C.

326 MAYO BUILDING  
TULSA 3, OKLAHOMA

**FRANCISCO & JACOBUS**

**ENGINEER & ARCHITECT**

*Specializing in the location and design of  
Customers Service Centers and Operating Headquarters*

NEW YORK

WESTBURY

CLEVELAND

TUCSON

(Professional Directory Continued on Next Page)



PROFESSIONAL DIRECTORY

(continued)



**GIBBS & HILL, INC.**

*Consulting Engineers*

**DESIGNERS • CONSTRUCTORS**

**PENNSYLVANIA STATION NEW YORK 1, N. Y.**



**GILBERT ASSOCIATES, INC.**

**ENGINEERS and CONSULTANTS**

**525 LANCASTER AVE.  
READING, PA.**

**WASHINGTON • NEW YORK**

**W. C. GILMAN & COMPANY**

**CONSULTING ENGINEERS**

**ELECTRIC — GAS — TRANSIT — WATER**

*Financial and Economic Reports*

*Valuations—Rate of Return—Depreciation Studies*

*Traffic Surveys—Fare Analyses*

**55 Liberty Street**

**New York 5, N. Y.**

**HARZA ENGINEERING COMPANY**

*Consulting Engineers*

**Calvin V. Davis**

**Richard D. Harza**

**E. Montford Fucik**

**REPORTS — DESIGN — SUPERVISION  
HYDROELECTRIC PLANTS AND DAMS — TRANSMISSION LINES — FLOOD CONTROL —  
IRRIGATION — RIVER BASIN DEVELOPMENT**

**400 West Madison Street**

**Chicago 6, Illinois**

**HOOSIER ENGINEERING COMPANY**

*Erection and Maintenance of*

*Electrical Transmission and Distribution Lines*

**1350 HOLLY AVENUE**

**COLUMBUS, OHIO**

**JENSEN, BOWEN & FARRELL**  
**ENGINEERS**

**APPRAISALS — DEPRECIATION STUDIES — PROPERTY RECORDS  
COST TRENDS — SPECIAL STUDIES — REPORTS**

*for Rate Cases, Security Issues, Regulatory and Accounting Requirements*

**Michigan Theatre Building**

**Ann Arbor, Michigan**

**NOrmandy 8-7778**

*Mention the FORTNIGHTLY—It identifies your inquiry*



PROFESSIONAL DIRECTORY  
(continued)

**Personalized Piping System Flexibility Analyses**

Piping flexibility studies made with  
Kellogg's electronic computer,  
individualized on your company forms.



Available on a confidential basis  
to consulting engineers and engineering  
departments. Write for details to:

FABRICATED PRODUCTS SALES DIVISION

The M. W. Kellogg Company, 711 Third Avenue, New York 17, N. Y.



*The Kuljian Corporation*

ENGINEERS • CONSTRUCTORS  
**POWER PLANT SPECIALISTS**

DESIGN • CONSTRUCTION MANAGEMENT  
SURVEYS • INVESTIGATIONS • REPORTS

1200 N. BROAD ST., PHILADELPHIA 21, PA.

**William S. Leffler, Engineers Associated**

Utility Management Consultants for past 35 years Specializing in

GAS  
ELECTRIC  
WATER  
TELEPHONE

CLASS COST ANALYSES for Developing CLASS RATES

OF RETURN and UNIT COSTS for use in

RATE CASES AND MODERNIZATION of Rate Structures

Send for brochure: "The Value of Cost Analysis to Management"

17 BAYWATER DRIVE

REGULATORY  
AND  
MUNICIPAL  
PROBLEMS

DARIEN, CONN.

**N. A. LOUGEE & COMPANY**

*Engineers and Consultants*

RATE CASES—APPRAISALS—DEPRECIATION STUDIES

BUSINESS AND FEASIBILITY STUDIES—REPORTS

120 Broadway

New York

**MANAGEMENT SERVICES FOR THE TRANSIT INDUSTRY**



• complete management

• consultation

• special investigations

**NATIONAL CITY MANAGEMENT COMPANY**

Prudential Plaza—Suite 3500

• Chicago 1, Illinois

• MOhawk 4-6500

**Pioneer Service & Engineering Co.**

CONSULTING, DESIGNING AND  
OPERATING ENGINEERS  
PURCHASING

231 SOUTH LA SALLE STREET



SPECIALISTS IN  
ACCOUNTING, FINANCING, RATES,  
INSURANCE AND DEPRECIATION

CHICAGO 4, ILLINOIS

(Professional Directory Continued on Next Page)

PROFESSIONAL DIRECTORY  
(continued)

Special Operating Studies  
Planning and Design  
Reports for Financing  
Economic Studies  
Regulatory Representation

R.A. RANSOM COMPANY, INC.

consulting engineers with a business viewpoint

1025 Connecticut Ave., N.W., Washington 6, D.C.  
61 Broadway, New York 6, N.Y.

**SANDERSON & PORTER**  
CONSTRUCTION • REPORTS  
SURVEYS

NEW YORK

NEW YORK

**S & P**

**SARGENT & LUNDY**  
ENGINEERS

Consultants to the Power Industry

• STUDIES • DESIGN • SUPERVISION

140 South Dearborn Street, Chicago 3, Ill.



**STANDARD RESEARCH CONSULTANTS, INC.**

Rate of Return • Valuations • Capital Costs  
Customer Surveys • Depreciation Studies  
Regional Economic Studies • Property Records

345 Hudson St.

Watkins 4-6400

New York 14, N. Y.



**STONE & WEBSTER**  
ENGINEERING CORPORATION

DESIGN • CONSTRUCTION • REPORTS • APPRAISALS  
EXAMINATIONS • CONSULTING ENGINEERING

NEW YORK  
BOSTON  
CHICAGO  
PITTSBURGH  
HOUSTON  
SAN FRANCISCO  
LOS ANGELES  
SEATTLE  
TORONTO

**Whitman, Requardt and Associates**

**DESIGN—SUPERVISION**

**REPORTS—VALUATIONS**

Publishers of the **HANDY-WHITMAN INDEX**  
**OF PUBLIC UTILITY CONSTRUCTION COSTS**,  
now in its 35th year and a companion publication the  
**HANDY-WHITMAN INDEX OF WATER UTILITY**  
**CONSTRUCTION COSTS**

1304 ST. PAUL STREET

BALTIMORE 2, MARYLAND

Mention the FORTNIGHTLY—It identifies your inquiry

PROFESSIONAL DIRECTORY  
(concluded)

**BURNS & McDONNELL**

*Engineers-Architects-Consultants*

4600 E. 63rd St. Trafficway  
Kansas City 41, Missouri

**LUTZ & MAY COMPANY**

*Consulting Engineers*

STEAM, GAS & DIESEL POWER STATIONS  
PUMPING PLANTS—ELECTRIC SYSTEMS  
REPORTS—DESIGNS—APPRAISALS  
1009 Baltimore Kansas City 6, Mo.

**EARL L. CARTER**

*Consulting Engineer*

REGISTERED IN INDIANA, NEW YORK, OHIO,  
PENNSYLVANIA, WEST VIRGINIA, KENTUCKY  
*Public Utility Valuations, Reports and  
Original Cost Studies*  
910 Electric Building Indianapolis, Ind.

**MINER AND MINER**

**CONSULTING ENGINEERS**

INCORPORATED

GREELEY

COLORADO

**ENGINEERS, CONSTRUCTION AND  
MAINTENANCE CONTRACTORS  
for the GAS INDUSTRY**



**CONSOLIDATED  
GAS AND SERVICE CO.**

327 So. LaSalle St., Chicago 4, ILL.

**PITTSBURGH TESTING  
LABORATORY**

Radiography—Soils—Mechanics  
Testing—Inspection—Analysis

Main Office, Pittsburgh, Pa.

32 Laboratories in Principal Cities

**GANNETT FLEMING CORDRY AND CARPENTER, INC.**

**ENGINEERS**

Investigations—Reports—Appraisals  
Original Cost and Depreciation Studies  
Rate Analyses—Insurance Surveys

HARRISBURG, PENNSYLVANIA

**A. S. SCHULMAN ELECTRIC CO.**

*Electrical Contracting Engineers*

founded 1890

POWER STATION—INDUSTRIAL—  
COMMERCIAL—TRANSMISSION LINES—  
DISTRIBUTION

2416 S. MICHIGAN AVE., CHICAGO, ILL. TAMPA  
LOS ANGELES

**INTERNUCLEAR COMPANY**

Nuclear consultants, engineers, and  
designers

Economics of Nuclear Power, Reactor  
Analysis and Design, Shielding,  
Special Applications

Clayton 5

Missouri

**SVERDRUP & PARCEL**

*Engineers & Consultants*

Design, Construction Supervision  
Steam and Hydro Power Plants  
Power Systems—Industrial Plants  
Studies—Reports

St. Louis • San Francisco • Washington

**Jackson & Moreland, Inc.  
Jackson & Moreland International, Inc.**  
*Engineers and Consultants*

**ELECTRICAL—MECHANICAL—STRUCTURAL  
DESIGN AND SUPERVISION OF CONSTRUCTION  
FOR**

**UTILITY, INDUSTRIAL AND ATOMIC PROJECTS**

**SURVEYS—APPRAISALS—REPORTS**

**MACHINE DESIGN—TECHNICAL PUBLICATIONS  
BOSTON — WASHINGTON — NEW YORK**

**A. W. WILLIAMS INSPECTION CO., INC.**

*Specialized Inspection Service*

Poles, Crossarms, Lumber, Piles, Crossties  
Preservative Treatment and Preservative Analysis

208 Virginia St., Mobile, Ala.  
New York St. Louis Portland  
Inspectors stationed throughout the U.S.A.

*Mention the FORTNIGHTLY—It identifies your inquiry*

# INDEX TO ADVERTISERS

[The Fortnightly lists below the advertisers in this issue for ready reference. Their products and services cover a wide range of utility needs.]

## A

*Allen & Company .....	
*Allied Chemical Corporation—Plastics & Coal Chemicals Division .....	
*Allis-Chalmers Manufacturing Company .....	34
American Appraisal Company, The .....	
*American Motors Corp. ....	
*American Telephone & Telegraph Co. ....	
Analysts Journal, The .....	18

## B

Babcock & Wilcox Company, The .....	16-17
*Bell Telephone System .....	
Black & Veatch, Consulting Engineers .....	34
*Blyth & Company, Inc. ....	
Boni, Watkins, Jason & Co., Inc. ....	34
Burns & McDonnell, Engineers .....	39
Burns and Roe, Inc. ....	34
Burroughs Corporation .....	Inside Front Cover

## C

Carter, Earl L., Consulting Engineer .....	39
*Coleman Company, Inc., The .....	
Columbia Gas System, Inc., The .....	7
Combustion Engineering, Inc. ....	14-15
Commonwealth Associates, Inc. ....	13, 34
Commonwealth Services, Inc. ....	13, 34
Consolidated Gas and Service Company .....	39

## D

Day & Zimmermann, Inc., Engineers .....	35
Dodge Division of Chrysler Corp. ....	9
Drake & Townsend, Inc. ....	35

## E

*Eastman Dillon, Union Securities & Company .....	
*Ebasco Services Incorporated .....	
Electro-Motive Division, General Motors .....	19-21
Empire Gas Engineering Company .....	35

## F

First Boston Corporation, The .....	33
Ford, Bacon & Davis, Inc., Engineers .....	35
Foster Associates, Inc. ....	35
Francisco & Jacobus .....	35

## G

Gannett Fleming Corddry and Carpenter, Inc. ....	39
*General Electric Company .....	
Gibbs & Hill, Inc., Consulting Engineers .....	36
Gilbert Associates, Inc., Engineers .....	36
Gilman, W. C., & Company, Engineers .....	36
Glore, Forgan & Company .....	30

## H

*Halsey, Stuart & Company, Inc. ....	
*Harnischfeger Corporation .....	
*Harriman, Ripley & Company .....	
Harza Engineering Company .....	36
*Hi-Voltage Equipment Company .....	
*Hodgman Rubber Company .....	
Hoosier Engineering Company .....	36

## I

*International Business Machines Corp. ....	
Internuclear Company .....	39
Irving Trust Company .....	Inside Back Cover

Professional Directory .....34-39

\*Fortnightly advertisers not in this issue.

## J

Jackson & Moreland, Inc., Engineers .....	39
Jensen, Bowen & Farrell, Engineers .....	36

## K

Kellogg, M. W., Company, The .....	4-5, 37
*Kidder, Peabody & Company .....	
*Kuhn Loeb & Company .....	
Kuljian Corporation, The .....	37

## L

*Langley, W. C., & Co. ....	
Leffler, William S., Engineers Associated .....	37
*Lehman Brothers .....	
*Line Material Industries .....	
*Loeb (Carl M.) Rhoades & Co. ....	
Lougee, N. A., & Company .....	37
Lutz & May Company, Consulting Engineers .....	39

## M

*Main, Chas. T., Inc., Engineers .....	
*Merrill Lynch, Pierce, Fenner & Smith, Inc. ....	
Miner & Miner, Consulting Engineers .....	39
*Morgan Stanley & Company .....	

## N

National Association of Railroad & Utilities Commissioners .....	22
National City Management Company .....	37

## O

*Osmose Wood Preserving Company of America, Inc. ...	
--	--

## P

Pioneer Service & Engineering Company .....	11, 37
Pittsburgh Testing Company .....	39
*Plastics and Coal Chem. Div., Allied Chemical Corp. ...	
*Pole Sprayers, Inc. ....	

## R

Ransom, R. A., Company, Inc. ....	38
Recording & Statistical Corporation .....	31
Remington Rand Div. of Sperry Rand Co. ....	Outside Back Cover

## S

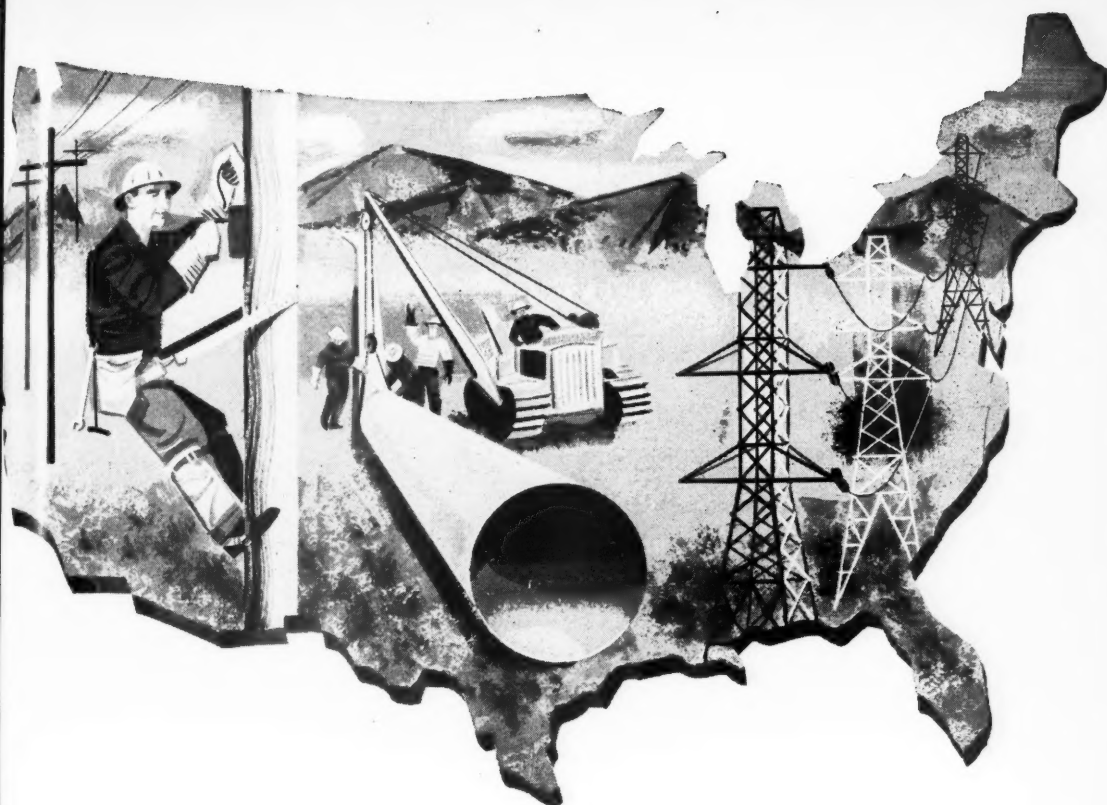
Sanderson & Porter, Engineers .....	38
Sargent & Lundy, Engineers .....	27, 38
Schulman, A. S., Electric Co., Engineers .....	39
*Smith Barney & Company .....	
Standard Research Consultants, Inc. ....	38
Stone and Webster Engineering Corporation .....	38
*Studebaker-Packard Corporation .....	
Sverdrup & Parcel, Engineers & Consultants .....	39

## T

*Texoma Enterprises, Inc. ....	
--------------------------------	--

## W

*Westinghouse Electric Corporation .....	
*White, Weld & Co. ....	
Whitman, Requardt and Associates .....	38
Williams, A. W., Inspection Co., Inc. ....	39



## *Lifelines of the nation!*

Playing a dynamic role in the economy of our nation, the investor-owned Utility Industry continues to expand its lifelines of service. Not only meeting the needs of today's consumers, but preparing also for an atomic age, Utilities are faced with enormous capital expansion requirements.

To assist in the many financial complexities accompanying this growth, Irving specialists are ready with new and sound approaches. Our Analytical Studies, Seminars, and Round Tables, may bring added vitality to your capital planning, financing, or cultivation of the financial community.

For more information, call Public Utilities Department at DIgby 4-3500  
or write us at One Wall Street

## **IRVING TRUST COMPANY**

*One Wall Street, New York 15, N.Y.*

*Capital Funds over \$140,000,000*

*Total Assets over \$1,700,000,000*

GEORGE A. MURPHY, *Chairman of the Board*

WILLIAM E. PETERSEN, *President*

Public Utilities Department—JOHN F. CHILDS, *Vice President in Charge*

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION



Remington  
really  
takes  
the  
work  
off  
her  
hands...

**SILENTLY**



Thanks to the exclusive "pressure printing" principle of the REMINGTON NOISELESS, the merest tap of finger tips against the keys assures both beautiful typing and *quiet*. The NOISELESS enables typists to turn out volumes of distinctive work with 85% less noise . . . eliminates the clack and clatter so annoying to the typist and people nearby.

Write for brochure RN8851 to Remington Rand, Room 1316, 315 Park Avenue South, New York 10, New York.

**REMINGTON NOISELESS®**

TYPEWRITER

MANUFACTURERS OF OVER 17,000,000 TYPEWRITERS

**Remington Rand.** Division of Sperry Rand Corporation